September 1976 Number 385-Part I

Solar-Geophysical Data prompt reports

Data for August 1976–July 1976

Explanation of Data Reports Issued as Number 378 (Supplement) February 1976

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Solar - Geophysical Data

NO. 385 SEPTEMBER 1976

Part I (Prompt Reports)

DATA FOR
AUGUST 1976
JULY 1976

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80302.

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No. 385

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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C.4d	Solar Radio Spectral Obs. (Culgoora)	378B 54	376B 24	376A 98	377A 94	378A 96	379A 95	380A102	381A100	383B 34	383A 96	385B 58	385A 95	
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F.1h	Cosmic Ray Neutron Counts (Thule)	374A108	375A 96	376A106	377A103	378A104	379A103	380A107	381A118	383B 38	383A104	---	---	
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Note: A = Part I, B = Part II.

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AUGUST 1976 DATA

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ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

AUGUST 1976

SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	Flares: Total	Flares: M	Flares: X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
214	1	31	00	69	20	-	-	-	-		1	SPOTNIL		SOLQUIET MAGQUIET
215	2	1	00	70	10	N14E73 N03E22	0 0	0 0	0 0		2	N14E73 N03E22	Q Q	SOLQUIET MAGQUIET
216	3	2	23	76	08	N16E63 N07E09	0 0	0 0	0 0		3	N16E63 N07E09	Q Q	SOLQUIET MAGQUIET
217	4	3	12	80	07	N16E49	0	0	0		4	N16E49	Q	SOLQUIET MAGQUIET
218	5	4	15	80	07	N17E25	0	0	0		5	N17E35	Q	SOLQUIET MAGQUIET
219	6	5	13	82	06	N17E23	1	0	0		6	N17E23	Q	SOLQUIET MAGQUIET
220	7	6	14	82	07	N16E09	2	0	0		7	N16E09	Q	SOLQUIET MAGQUIET
221	8	7	25	81	06	N16W04 S04E65 S24E63	2 0 0	0 0 0	0 0 0		8	N16W04 S04E65 S24E63	E Q Q	SOLQUIET MAGQUIET
222	9	8	30	80	05	N16W16 S24E52	0 0	0 0	0 0		9	N16W16 S24E52	Q Q	SOLQUIET MAGQUIET
223	10	9	42	81	15	N16W29 S03E25 N24E23	0 0 0	0 0 0	0 0 0		10	N16W29 S03E25 N24E23	Q Q Q	SOLQUIET MAGQUIET
224	11	10	34	81	07	N15W44 N24E10	0 0	0 0	0 0		11	N15W44 N24E10	Q Q	SOLQUIET MAGQUIET
225	12	11	11	78	13	N16W56 N24E04	0 0	0 0	0 0		12	N16W56 N24E04	Q Q	SOLQUIET MAGQUIET
226	13	12	31	79	05	N16W69 N25W16	0 0	0 0	0 0		13	N16W69 N25W16	Q Q	SOLQUIET MAGQUIET
227	14	13	34	77	05	N15W85 N24W28	0 0	0 0	0 0		14	N15W85 N24W28	Q Q	SOLQUIET MAGQUIET
228	15	14	11	72	05	N24W42	0	0	0		15	N24W42	Q	SOLQUIET MAGQUIET
229	16	15	20	71	03	S03W00	0	0	0		16	S03W00	Q	SOLQUIET MAGQUIET
230	17	16	19	71	07	S02W13	0	0	0		17	S02W13	Q	SOLQUIET MAGQUIET
231	18	17	23	76	05	S02W27	0	0	0		18	S02W27	Q	SOLQUIET MAGQUIET
232	19	18	37	76	05	S02W39 S12E75	1 2	0 1	0 0		19	S02W39 S12E75	Q E	SOLQUIET MAGQUIET
233	20	19	21	74	09	S02W54 S11E63	0 3	0 0	0 0		20	S02W54 S11E63	Q E	SOLQUIET MAGQUIET
234	21	20	28	73	06	S02W65 S12E46	0 0	0 0	0 0		21	S02W65 S12E46	Q E	SOLQUIET MAGQUIET
235	22	21	13	72	09	S12E34	0	0	0		22	S12E34	Q	SOLQUIET MAGQUIET
236	23	22	24	71	05	S12E18 S11E29	0 0	0 0	0 0		23	S12E18 S11E29	Q Q	SOLQUIET MAGQUIET
237	24	23	13	69	24	S11E16	0	0	0		24	S11E16	Q	SOLQUIET MAGALERT MINOR 25/26
238	25	24	13	69	27	S11W05	0	0	0		25	S11W05	Q	SOLQUIET MAGALERT 25/26
239	26	25	12	69	24	S11W17	0	0	0		26	S11W17	Q	SOLQUIET MAGALERT 26/26
240	27	26	25	69	27	S12W30 S08E11	0 0	0 0	0 0		27	S12W30 S08E11	Q Q	SOLQUIET MAGNIL
241	28	27	11	70	17	S08E01	0	0	0		28	S08E01	Q	SOLQUIET MAGQUIET
242	29	28	34	71	13	S12W41 S07W06 N15E81	0 0 0	0 0 0	0 0 0		29	S12W41 S07W06 N11E81	Q Q Q	SOLQUIET MAGQUIET
243	30	29	11	72	07	N15E69	0	0	0		30	N15E69	Q	SOLQUIET MAGQUIET
244	31	30	11	73	06	N17E51	0	0	0		31	N17E51	Q	SOLQUIET MAGQUIET
245	1	31	24	72	06	N17E37 S18W56	0 0	0 0	0 0		1	N17E37 S18W56	Q Q	SOLQUIET MAGQUIET

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Doubtful O.G.=Other Groups MF=Major Flare

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

	1975 FINAL				1976 PROVISIONAL							
DAY	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	14	15	0	7	0	0	0	26	35	0	9	10
2	16	8	0	23	0	0	0	25	26	0	8	18
3	19	9	7	20	0	0	0	22	25	0	14	19
4	29	10	16	23	0	0	0	13	8	0	8	14
5	25	8	22	21	0	0	0	12	22	0	6	17
6	24	10	27	18	0	0	10	9	10	0	10	15
7	24	9	30	20	0	0	12	0	10	0	7	26
8	23	16	33	18	0	0	7	0	9	11	0	30
9	17	15	30	8	0	0	10	8	8	10	0	31
10	10	8	26	0	0	0	12	10	10	7	6	24
11	10	8	30	0	0	0	13	15	16	7	0	22
12	16	10	24	0	20	0	13	17	17	8	0	29
13	19	21	22	0	26	13	13	17	23	8	0	27
14	17	26	29	7	36	16	22	19	30	15	0	16
15	8	21	28	7	20	18	16	19	17	18	0	8
16	14	18	28	7	22	11	11	19	12	12	0	15
17	14	16	30	9	24	8	30	24	18	18	0	19
18	18	16	33	8	20	15	45	27	8	24	0	23
19	13	15	36	7	18	10	51	27	20	23	0	25
20	30	10	35	0	16	12	51	30	20	17	0	19
21	27	7	31	0	11	8	48	39	14	30	0	17
22	23	0	23	0	10	7	36	20	7	31	0	8
23	0	0	12	0	10	0	28	17	15	23	0	9
24	0	7	11	18	0	7	25	16	8	26	0	17
25	0	0	9	14	0	0	22	17	0	19	0	9
26	0	0	7	8	0	0	42	28	7	19	0	14
27	0	0	0	0	7	7	46	23	0	9	0	7
28	0	0	0	0	0	0	50	21	0	16	0	5
29	0	0	0	0	14	0	42	26	0	11	0	5
30	7	0	0	0	8		32	38	0	10	0	10
31		0		0	0		27		0		0	9
MEAN	13.9	9.1	19.4	7.4	9.5	4.6	23.0	19.5	12.7	12.4	2.1	16.3

1975 yearly mean = 15.5

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

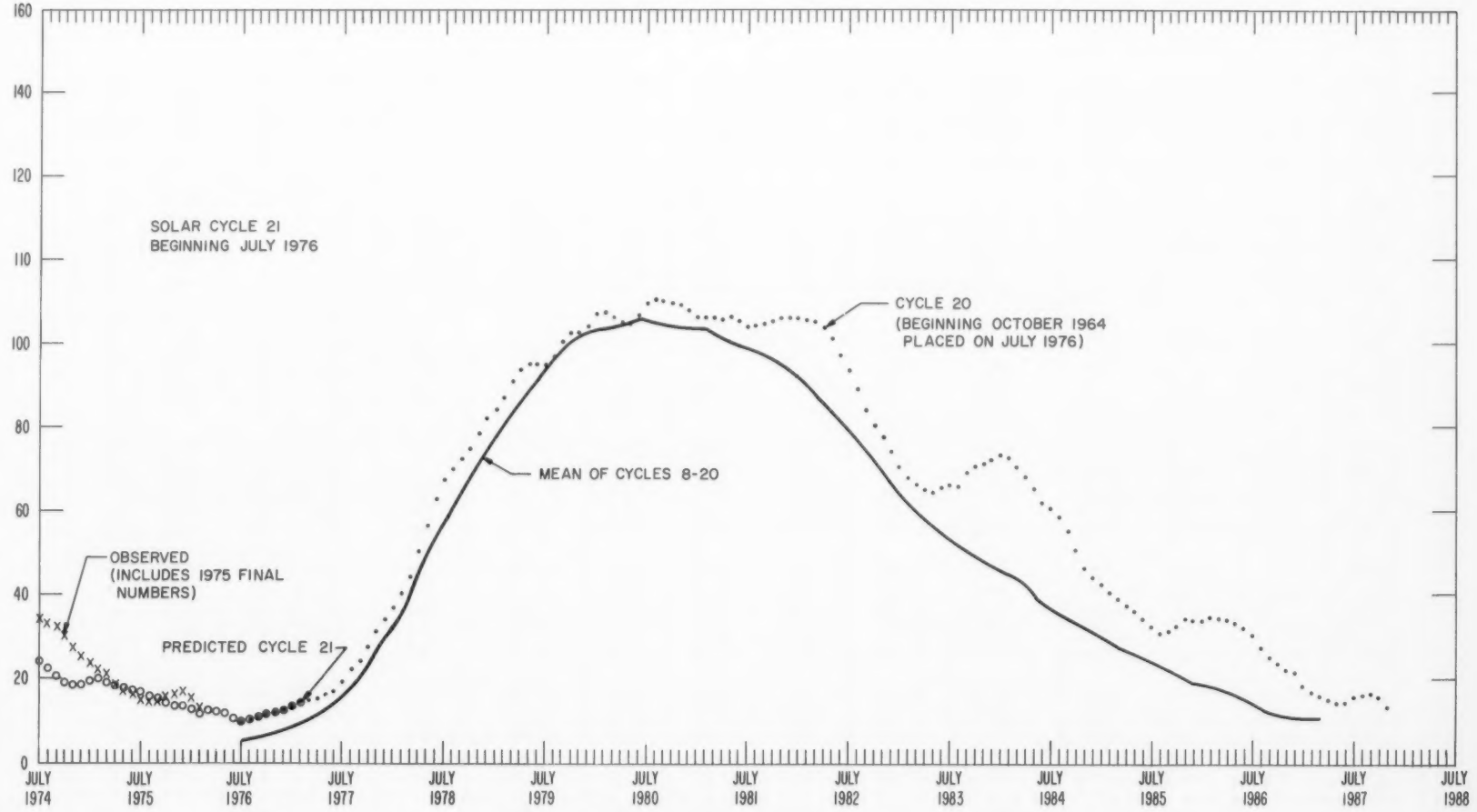
	1975				1976							
DAY	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	87.0	76.4	74.4	72.1	72.1	68.0	67.7	79.6	77.6	68.4	69.3	75.9
2	87.9	78.1	71.4	74.8	71.2	68.0	68.1	76.8	74.2	67.9	69.1	77.8
3	87.8	78.4	73.0	74.3	71.3	68.4	67.4	76.1	71.9	68.1	69.5	82.3
4	92.8	76.3	75.4	74.1	71.8	68.4	67.4	74.7	71.5	68.4	68.6	82.3
5	94.4	76.1	78.9	77.4	71.9	67.6	67.6	73.0	71.1	68.7	69.5	84.2
6	94.0	75.1	80.1	75.6	71.7	68.1	67.5	71.3	69.9	69.3	69.6	84.3
7	91.1	74.3	80.5	73.7	71.6	69.3	67.9	70.3	70.3	69.0	69.5	83.7
8	85.5	74.0	80.9	76.0	70.3	68.4	67.9	71.9	72.2	70.7	69.7	82.4
9	84.3	75.4	78.8	73.3	69.4	68.3	68.2	74.1	70.6	70.1	69.7	82.8
10	82.5	74.3	78.9	73.3	70.5	68.5	68.4	75.3	71.7	71.0	70.1	82.8
11	81.1	73.3	79.6	74.3	72.1	68.4	68.8	77.1	72.5	71.4	70.2	80.4
12	78.2*	74.8	79.7	73.4	76.9	67.8	68.9	78.1	72.6	71.7	69.8	80.6
13	75.2	79.4	79.2	72.9	80.0	69.7	70.9	79.6	73.6	72.0	69.8	78.7
14	74.6	80.0	82.7	71.8	82.1*	69.9	70.1	79.5	74.2	73.7	70.7	73.4
15	74.1	80.3	83.7	71.8	80.4	69.0	69.1	79.2	76.9	74.3	71.4	72.3
16	74.3	78.5	87.6	70.5	78.1	69.7	72.5	80.6	79.2	77.1	69.8	72.9
17	74.8	78.9	88.9	70.5	76.6	69.9	74.4*	80.5	76.5	77.1	69.4	77.8
18	76.2	79.2	90.8*	69.5	76.7	70.1	79.0	80.5	75.6*	77.9	70.6	78.2
19	76.2	78.6	93.0*	69.1	75.2	70.1	81.6*	79.8	73.8	76.9	70.2	76.1
20	76.5	77.1	90.9	69.7	74.6	70.0	85.0	80.0	73.0	76.9	69.4	74.5
21	76.7	75.7	86.6	69.0	72.1	68.8	91.2	78.0	74.0	77.7	70.1	73.2
22	75.3	74.2	81.5	68.9	70.9	68.9	83.0	76.2*	72.5	78.9	70.1	72.3
23	76.1	74.3	77.2	69.5	70.2	69.2	86.9	75.7	71.9	76.5	68.7	73.8
24	76.6	72.7*	74.7	71.4	68.5	69.6	82.2*	76.8	70.8	75.2	69.4	70.9
25	76.7	72.1	73.7	71.0	68.2	68.4	85.1	75.7	69.8	74.9	68.8	70.6
26	76.7	71.9	71.9	71.8	68.2	68.5	84.1*	75.7	69.5	74.3	68.5	70.1
27	75.7	72.1	70.7	72.5	67.2	68.5	85.5	74.6	69.6	72.8	69.4	71.5
28	76.1	71.7	70.4	71.5	67.1	67.9	87.1*	73.4	69.0	71.8	69.4	72.8
29	75.9	70.8	70.9	72.3	67.4	67.4	84.0	79.6	68.0	71.3	69.4	73.3
30	75.8	70.2	70.6	71.9	68.9		82.4	79.5*	68.1	70.3	70.7	73.0
31		69.9		72.1	69.1		82.7		68.7		72.3	73.8
MEAN	80.4	75.3	79.1	72.3	72.4	68.8	75.8	76.7	72.2	72.6	69.8	76.6

* adjusted for burst

DAILY SOLAR INDICES

AUGUST 1976

AUG 1976	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	214	13	10	7	73.7	524	274	119	75.9	73.4	46.5	35.5	19.1	16.2
2	215	14	18	12	75.5	524	275	120	77.8	75.6	45.6	37.2	31.8	35.4
3	216	15	19	13	79.9	524	281	126	82.3	80.1	44.2	37.9	24.4	21.5
4	217	16	14	12	80.0	519	281	127	82.3	80.2	48.7	34.9	28.6	20.9
5	218	17	17	14	81.8	517	279	130	84.2	81.2	49.9	34.8	24.4	26.3
6	219	18	15	12	81.9	519	281	128	84.3	81.6	50.5	37.0	24.2	10.2
7	220	19	26	14	81.4	522	281	128	83.7	79.3	51.7	49.9	33.5	30.0
8	221	20	30	18	79.8	522	280	127	82.0	79.4	50.0	37.8	21.7	12.4
9	222	21	31	18	80.5	525	282	127	82.8	78.6	49.6	37.7	22.2	14.1
10	223	22	24	21	80.6	523	280	125	82.8	80.2	50.6	38.2	27.0	13.8
11	224	23	22	22	78.3	520	277	124	80.4	78.1	46.6	38.5	24.0	12.1
12	225	24	29	22	78.5	510	274	122	80.6	77.1	45.5	38.3	24.5	10.3
13	226	25	27	19	76.7	518	264	121	78.7	75.3	47.4	35.3	24.6	9.5
14	227	26	16	12	71.5	520	261	115	73.4	70.0	43.5	35.6	21.4	8.7
15	228	27	8	5	71.0	521	260	115	72.8	70.0	42.1	34.7	22.5	8.8
16	229	1	15	14	71.1	525	266	117	72.9	70.7	43.7	36.4	22.4	10.0
17	230	2	19	19	75.9	524	280	122	77.8	74.6	41.4	37.3	19.3	8.4
18	231	3	23	21	76.3	518	280	121	78.2	75.6	42.8	37.6	20.2	11.1
19	232	4	25	25	74.3	521	286	123	76.1	75.3	44.5	38.3	20.7	8.5
20	233	5	19	20	72.8	519	281	118	74.5	72.1	40.6	33.9	19.3	7.8
21	234	6	17	14	71.6	514	265	115	73.2	68.7			19.0	8.0
22	235	7	8	10	70.7	511	267	114	72.3	68.8			22.4	8.1
23	236	8	9	10	69.3	514	267	113	70.8	67.8	39.0	34.0	19.6	7.8
24	237	9	17	13	69.4	515	271	114	70.9	67.0	38.9	35.3	18.6	7.5
25	238	10	9	10	69.1	512	273	114	70.6	67.4	40.5	35.9	21.1	8.0
26	239	11	14	8	68.7	509	267	113	70.1	67.3	40.8	34.5	20.7	8.6
27	240	12	7	3	70.0	514	268	114	71.5	68.1	43.5	33.8	21.1	8.5
28	241	13	8	6	71.4	520	270	116	72.8	69.5	42.6	34.8	21.2	9.6
29	242	14	9	9	71.9	517	273	116	73.3	70.3	43.6	34.3	20.4	10.8
30	243	15	10	10	71.6	515	275	115	73.0	70.8	42.3	35.8	21.9	10.1
31	244	16	9	11	72.4	513	275	116	73.8	72.5	41.9	36.8	19.8	14.1
MEAN			16.9	13.7	74.8	518	274	120	76.6	73.8	44.9	36.6	22.6	12.8



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 21

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1976	15.5	13.4	12.2 (--)	11.1 (--)	10.2 (--)	10.1 (--)	10.0 (--)	10.3 (1)	10.9 (1)	11.5 (2)	12.1 (3)	12.6 (3)
1977	13.6 (4)	14.5 (5)	15.3 (7)	16.8 (8)	18.4 (10)	19.7 (12)	21.7 (14)	24.1 (17)	27.2 (20)	30.8 (23)	33.9 (26)	36.5 (29)
1978	39.4 (32)	42.8 (36)	46.3 (40)	50.3 (43)	54.6 (47)	59.5 (52)	63.8 (55)	66.9 (59)	69.4 (62)	71.7 (65)	75.1 (66)	79.8 (68)
1979	84.4 (71)	88.2 (74)	93.0 (77)	97.3 (79)	100.1 (81)	102.0 (83)	104.1 (87)	107.0 (90)	109.4 (92)	110.5 (93)	110.4 (94)	110.3 (94)
1980	109.7 (93)	109.7 (90)	109.0 (87)	110.4 (84)	112.0 (83)	113.7 (83)	114.4 (79)	115.0 (76)	114.6 (73)	114.4 (70)	114.7 (70)	114.9 (69)
1981	116.5 (69)	119.2 (70)	118.2 (70)	114.6 (68)	111.7 (66)	110.2 (64)	109.5 (62)	110.0 (60)	111.4 (59)	112.4 (58)	112.3 (57)	111.0 (54)
1982	108.2 (51)	104.1 (49)	101.5 (47)	100.0 (46)	98.6 (44)	96.6 (42)	93.3 (41)	88.5 (39)	83.5 (37)	80.4 (33)	75.7 (29)	72.8 (27)
1983	69.8 (26)	67.2 (25)	65.8 (24)	65.1 (23)	64.3 (23)	63.1 (22)	61.6 (23)	61.7 (22)	62.5 (22)	62.4 (23)	62.3 (24)	62.0 (25)
1984	61.5 (25)	60.4 (25)	58.4 (25)	55.8 (24)	53.0 (24)	50.9 (26)	50.0 (27)	48.1 (28)	45.6 (29)	44.1 (28)	42.8 (26)	41.6 (25)
1985	41.0 (24)	40.0 (23)	38.6 (23)	37.6 (22)	37.1 (22)	36.2 (22)	34.6 (21)	33.1 (20)	32.1 (19)	31.3 (19)	30.8 (19)	29.7 (20)
1986	29.2 (20)	29.8 (20)	29.9 (19)	29.2 (18)	27.8 (17)	26.3 (16)	25.0 (15)	23.5 (15)	22.3 (14)	21.5 (13)	20.7 (11)	20.3 (10)
1987	19.4 (8)	18.3 (8)	17.6 (8)	17.4 (9)								

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1975.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 20. Tests indicate that earlier cycles are from a different statistical population.

This prediction for the new sunspot cycle is based on an assumption that sunspot minimum occurred in July 1976 with a smoothed number of 10. The predictions will be changed after sunspot minimum has been observed.

10
Aug 76

Hα SOLAR FLARES

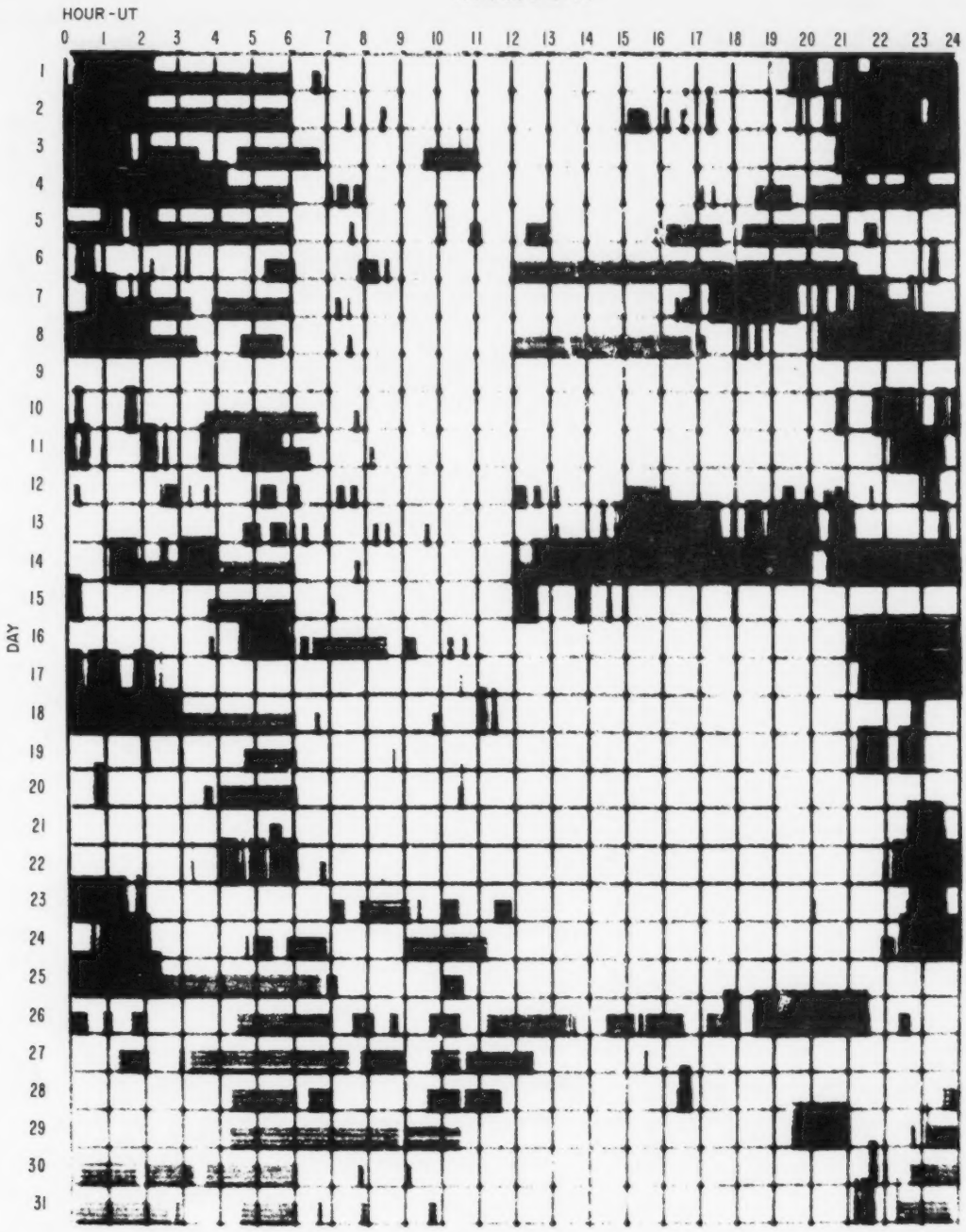
AUGUST 1976

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION — MIN.	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			CORD.	TYPE	TIME — UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
CATA	01	0625	0625	0635	N18	E90	1.000	14352	8.0	10	1N	3		0625	56		
ISTA	01	0625		0635	N19	E90	1.000		8.0	10	SN						A
MCMA	01	1110	1113	1134	N19	E84	.997	14352	7.8	24	1N		P	1113			
MONT	04	0933	0937	1004	N16	E41	.709		7.5	31	SN		C	0937	60		E
CATA	04	0936E	0938	1015	N16	E40	.698		7.4	39D	SB	3		0938	56	.8	
MONT	05	0858E	0901	0923	S12	W90	1.000		28.6	25D	SF		C	0901	20		
CATA	05	1420	1428	1520	N13	E28	.537		7.7	60	SB	2		1428	67	.8	
MITK	06	0430	0434	0505	N16	E14	.408		7.2	35	SN		C	0434	90	1.0	
PALE	06	0433	0436U	0448D	N17	E19	.468		7.6	15D	SN	2	C		92		DE
ATHN	06	0433	0437	0504	N17	E18	.458		7.5	31	SN	2	C		32		DE R
MANI	06	0445E	0445U	0500D	N16	E16	.427		7.4	15D	SN	2	P	0445	70	.8	F
RAMY	06	1135	1140	1205	N17	E30	.589		8.7	30	SN	4	C		60		DE R
CATA	06	1135	1140	1155D	N16	E11	.382		7.3	20D	SN	2		1140	84	.9	
MANI	07	0200E	0200U	0203D	N13	E08	.315		7.7	3D	SN	1	V	0200	60	.6	
RAMY	07	1130E	1135U	1150D	N17	W 3	.355		7.3	20D	SN	4	C		45		FDE
CATA	07	1540	1540	1550	N15	W02	.320		7.5	10	SN	2		1540	56	.6	
CATA	08	0840	0845	0900	N15	W13	.383		7.4	20	SN	2		0845	67	.7	
MCMA	09	2025	2026	2030	N18	W31	.606	14352	7.5	5	SN		C	2026	50	.6	EL
CATA	10	1025	1025	1035	N18	W39	.693		7.5	10	SN	2		1025	33	.4	
MITK	13	0033	0038	0048	N26	W16	.542		11.8	15	SN		C	0038	90	1.0	E
MITK	13	0435	0437	0446D	N25	W19	.551		11.8	5D	SF		C	0437	70	.8	E
MCMA	15	1402E		1417	S03	E06	.105	14366	16.0	15D	SB		C	1402	25	.3	DHT
MCMA	15	1604	1614	1624	S03	E05	.087	14366	16.0	20	SN		C	1614	25	.3	DH
MCMA	18	1403	1406	1429	S07	W82	.990	14356	12.4	26	SN		C	1406			D
MCMA	18	1426	1430	1455	S03	W36	.587	14366	15.9	29	SN		C	1430	25	.3	EH
MCMA	18	1844	1845	1858	S12	E84	.994	14375	25.1	14	1B		C	1845			HV
PALE	18	1845	1851	1856	S12	E79	.981		24.7	11	SN	4	C		83		
PALE	19	0026	0027	0034	S11	E75	.965		24.6	8	SF	3	C		31		
MONT	19	0855	0858	0903	S05	W44	.695		16.1	8	SF		C	0858	20		
MONT	19	0916E	0917	0923	S05	W44	.695		16.1	7D	SF		C	0917	40		E
CATA	19	0920	0920	0925	S06	W44	.695		16.1	5	SN	2		0920	28	.4	
MCMA	19	1157	1207	1216	S14	E70	.940	14375	24.7	19	SN		C	1207	40	1.6	E
MCMA	19	1831	1834	1842	S14	E67	.922	14375	24.8	11	SF		C	1834	30	1.1	E
MONT	21	0803	0807	0813	S03	W74	.961		15.8	10	SF		C	0807	40		E
MITK	22	0127	0129	0138	S04	W90	1.000	14366	15.3	11	1N		C	0129	60		
MITK	22	0206E	0209	0219	S04	W90	1.000	14366	15.3	13D	1F		C	0209	70		
UPIC	22	0730	0735	0745	S11	E43	.690		25.5	15	SF		P	0735	61		
UPIC	22	0820	0825	0900	S11	E43	.690		25.6	40	SF		P	0825	41		
RAMY	22	1021E	1115	1140D	S 6	W90	1.000		15.7	79D	SN	4	V				
RAMY	22	1021E	1115	1140D	S 7	W90	1.000		15.7	79D	SN	4	C				
UPIC	22	1217E		1222D	S02	W90	1.000		15.8	5D	N		P	1217			AB
MCMA	31	1958E	2005	2038	N19	W54	.834	14403	27.8	40D	SN		C	2005	50	.9	E

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

AUGUST 1976



Observatories included in total patrol:

Athenes	Herstmonceux	McMath-Hulbert	Palehua	Upice
Bucharest	Istanboul	Mitaka	Ramey	Wendelstein
Catania	Manila	Monte Mario	Tehran	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

12
Aug 76

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

AUGUST 1976

Nançay 169 MHz

5

BECAUSE OF CALIBRATION PROBLEMS IN THE OBSERVING EQUIPMENT
NO NANÇAY CHART WILL BE PUBLISHED FOR AUGUST 1976.

10

15

20

25

30

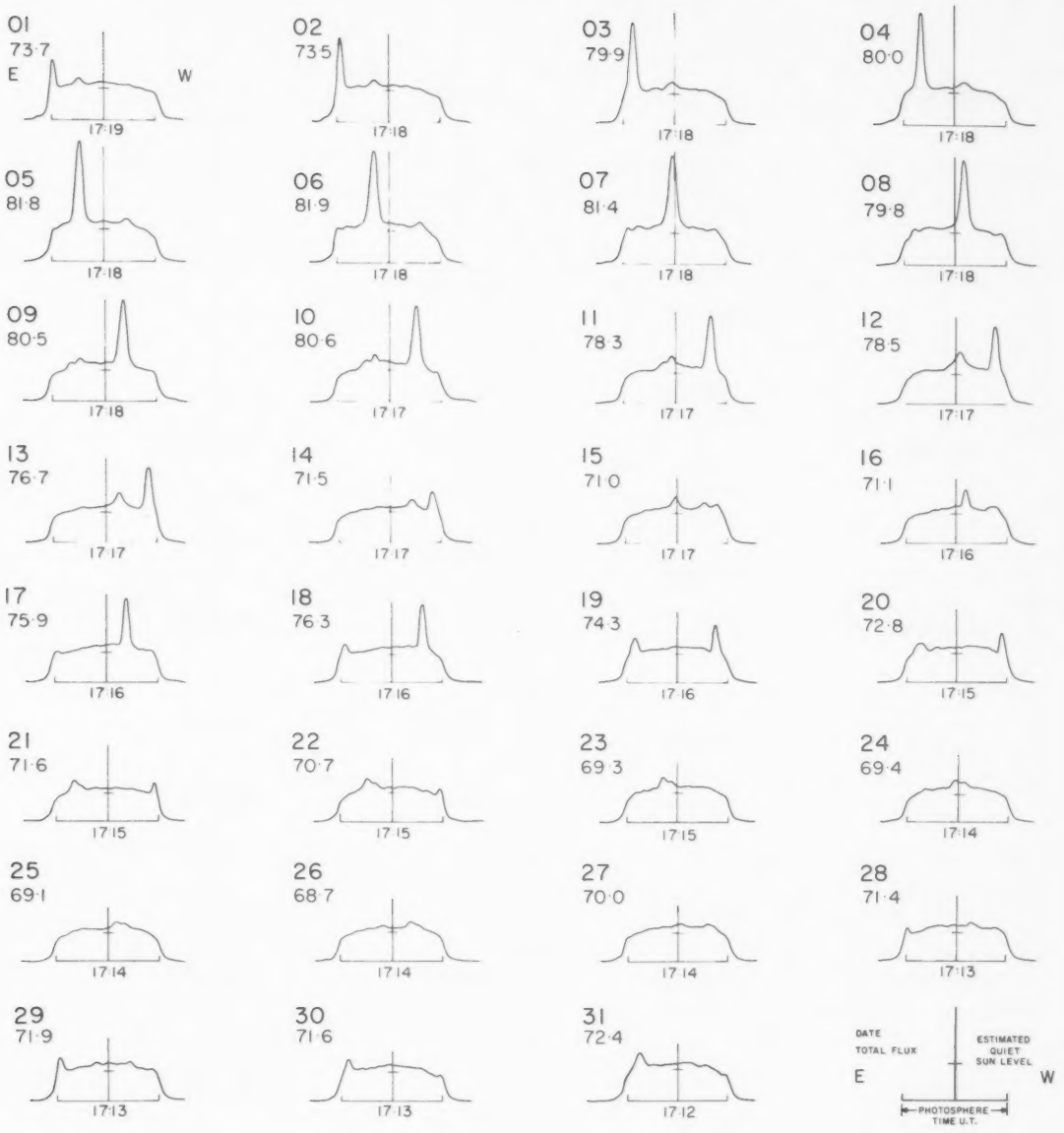
E C W

EAST-WEST SOLAR SCANS

AUGUST 1976

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



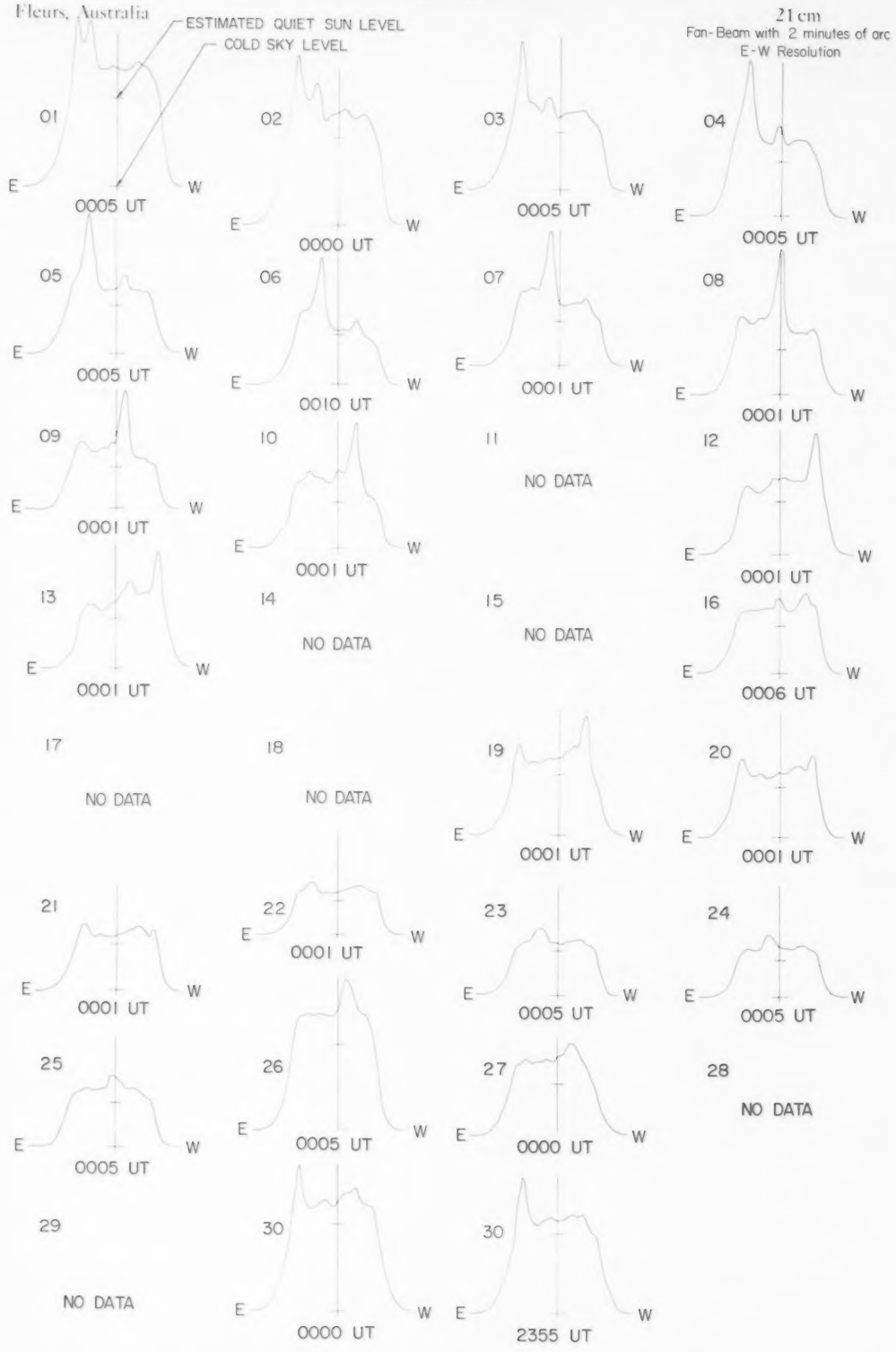
14
Aug 76

EAST-WEST SOLAR SCANS

AUGUST 1976

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



EAST-WEST SOLAR SCANS

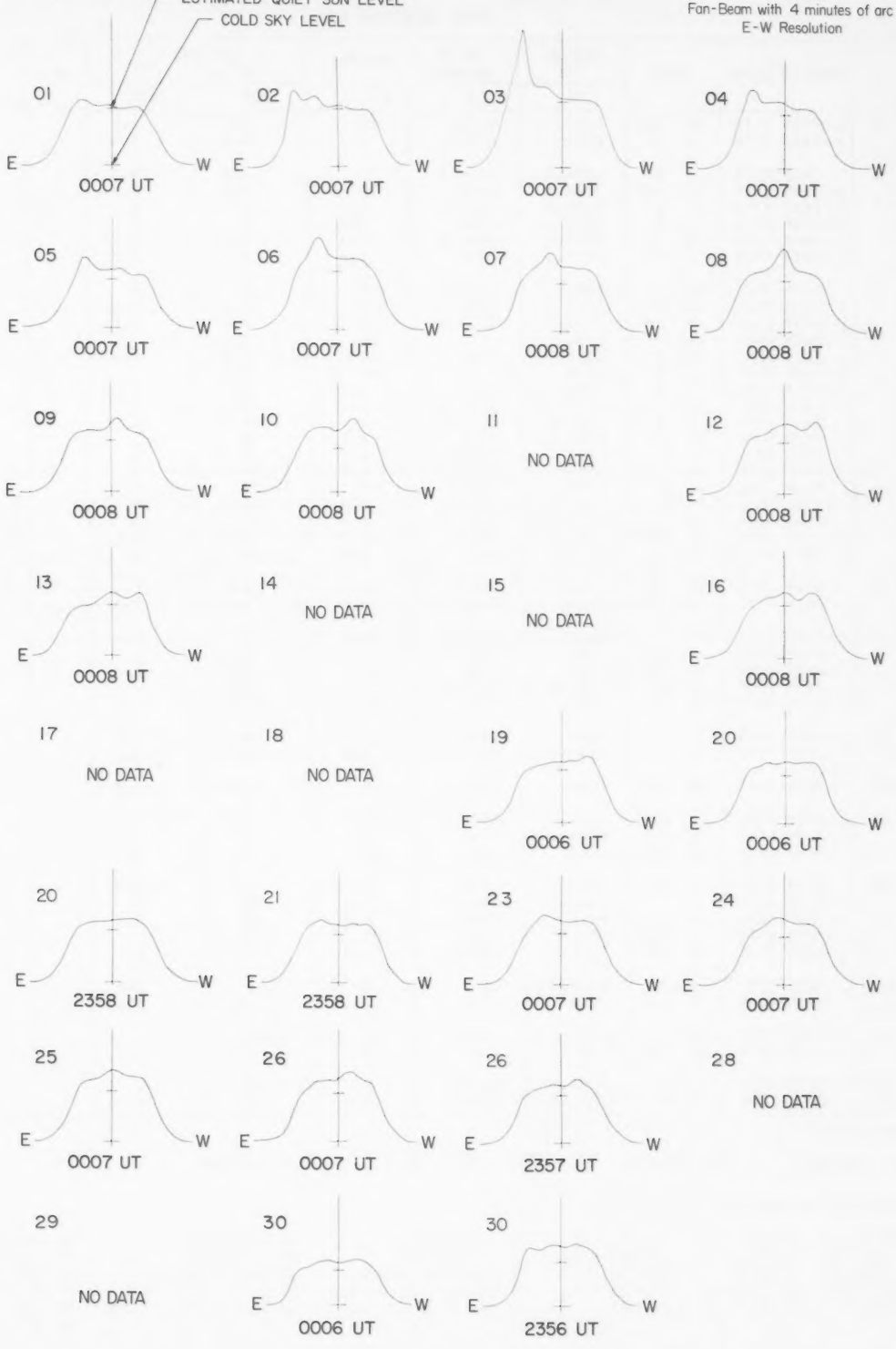
AUGUST 1976

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

AUGUST 1976

	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
1	2800 OTTA	21 GRF	2155	2330	215	2.2	1.1		
	2800 OTTA	1 S	2222	2222.7	2	0.8	0.4		
2	2695 PENT	1 S	1156.5	1156.6	1	1.2	0.5		
	2800 OTTA	21 GRF	2229	2239	27	1.4	0.7		
	2800 OTTA	1 S	2234.5	2235.3	2	2	1		
	2695 BOUL	1 S	2235	2236	2.5	4	1		
	2800 OTTA	8 S	2242.5	2242.5	0.5	1.4	0.7		
	2800 OTTA	1 S	2249.8	2250	1.5	1	0.5		
3	2695 BOUL	45 C	0102	0105.5	7	6	2		
	2695 PENT	240AR	1227	1234	7	1.2	0.6		
	2695 PENT	2 S/F	1227	1230.2	5	2.2	1.1		
	2695 PENT	24P R	1234		96	1.2			
	2695 PENT	240 R	1410	1530	80	1.5	0.8		
	2695 PENT	24P R	1530		450 D	1.5			
	2695 BOUL	3 S	1533	1534	4.5	4	1		
	2695 BOUL	8 S	1716	1716.5	1	12	4		
	2695 BOUL	8 S	1721.5	1722.5	1.5	15	5		
	2695 BOUL	45 C	1747	1748	3.5	8	3		
	2695 BOUL	8 S	1752	1752.5	1	3	1		
	2695 BOUL	8 S	1808	1808.5	1.5	15	5		
	2695 BOUL	40 F	1859	1900	4	23	7		
	2695 BOUL	40 F	1928.5	1931.5	6.5	53	19		
	2695 BOUL	45 C	2255.5	2257.5	8.5	15	5		
	2800 OTTA	20 GRF	2320	2340	50	1.2	0.6		
	2695 BOUL	40 F	2326.5	2328	5.5	17	6		
5	2800 OTTA	22 GRF	1412	1421	80	4.8	2.4		
	2800 OTTA	22 GRF	2054	2058	65	1.6	0.8		
6	2695 MANI	2	0430	0432.3	10.5	7	2.8		
	2695 PENT	1 S	1106	1107	2	2.4	1		
	2695 PENT	21 GRF	1130	1136	35	2.4	1.2		
	2695 PENT	40 F	1134.2	1134.7	3	4.8			
	2695 PENT	40 F	1305	1313	13	17.4			
7	9800 MANI	4	0158.5	0200	3	12.6	2.5		
	2695 MANI	4	0154.5	0159.3	5.8	15.3	5.1		
11	2800 OTTA	32 ABS	1408	1432	55	-1.2	-0.6		
13	2695 PENT	21 GRF	1145	1230	130	1.4	1		
	2695 PENT	1 S	1148	1152	6	2	1.5		
	2695 PENT	22 GRF	1420	1440	210	2.8	2		
18	2800 OTTA	20 GRF	1426	1430	25	1.4	0.7		
	2800 OTTA	3 S	1843.5	1844.7	4.5	32	8		
	2695 BOUL	8 S	1844	1845	4.5	28	9		
	2800 OTTA	31 ABS	1848	1905	87	-1			
	2695 BOUL	31 ABS	1848.5	1850.5	14.5	2	1		
21	2695 PENT	1 S	1118.5	1121	5	2	1.2		
	2695 PENT	22 GRF	1308	1310	12	1.2	0.6		
22	2695 PENT	46F C	1158	1211.5	32	152			
	2695 PENT	29 PBI	1230	1230	58	7.4	2.5		
26	2695 BOUL	3 S	1657.5	1659.5	2	12	4		
	2695 BOUL	1 S	1733.5	1734	1.5	3	1		

Observatories:

BOUL = Boulder MANI = Manila OTTA = Ottawa ARO PENT = Penticton

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SOLAR WIND

Interplanetary Scintillations

AUGUST 1976

U.C.S.D. Solar Wind Speeds (observed by Interplanetary Scintillations at 74 MHz): These observations will not be published until further notice. A systematic difference has been found between speeds observed to the east and to the west of the sun. The data for the whole of 1976 are being reanalyzed and will be published as soon as possible.

SOLAR X-RAYS BY SATELLITE
SMS GOES

AUGUST 1976

.5 - 4Å Hourly Averages (10^{-5} watts/m^2)

MO DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
8/ 1	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B
8/ 2	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B
8/ 3	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0.01	B	B	B
8/ 4	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 6	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 7	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 8	B	B	B	B	M	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 9	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B
8/10	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
8/11	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/12	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/13	B	B	B	M	M	B	B	B	B	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	B
8/14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/15	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/16	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/17	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/18	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	0.02	B	B	B	B	B	B
8/19	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/20	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/21	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/22	B	B	B	B	M	B	B	B	B	B	B	B	0.08	B	B	B	B	B	B	B	B	B	B	B	B
8/23	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/24	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/25	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B
8/26	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/27	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B	B
8/28	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/29	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/30	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B
8/31	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

Note: "B" indicates the flux was below the cut-off levels.
"M" denotes periods of missing data.

SOLAR X-RAYS BY SATELLITE
SMS GOES

AUGUST 1976

1 - 8Å Hourly Averages (10^{-4} watts/m^2)

MO DA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Mean
8/ 1	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B
8/ 2	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B
8/ 3	B	B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0.11	B	B	B
8/ 4	B	B	B	B	B	B	B	0.02	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 5	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 6	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 7	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 8	B	B	B	B	M	B	B	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B
8/ 9	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B
8/10	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B
8/11	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/12	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/13	B	B	B	M	M	B	B	B	B	M	M	M	M	M	B	B	B	B	B	B	B	B	B	B	B
8/14	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/15	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/16	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/17	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/18	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	0.02	B	B	B	B	B	B
8/19	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/20	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/21	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/22	B	B	B	B	M	B	B	B	B	B	B	B	0.09	B	B	B	B	B	B	B	B	B	B	B	B
8/23	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/24	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/25	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B
8/26	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/27	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	M	B	B	B	B
8/28	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/29	B	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
8/30	B	B	B	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	M	B	B	B	B
8/31	B	B	B	M	M	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

Note: "B" indicates the flux was below the cut-off levels.
"M" denotes periods of missing data.

19 Aug 76

SOLAR X-RAYS BY SATELLITE

GOES-1

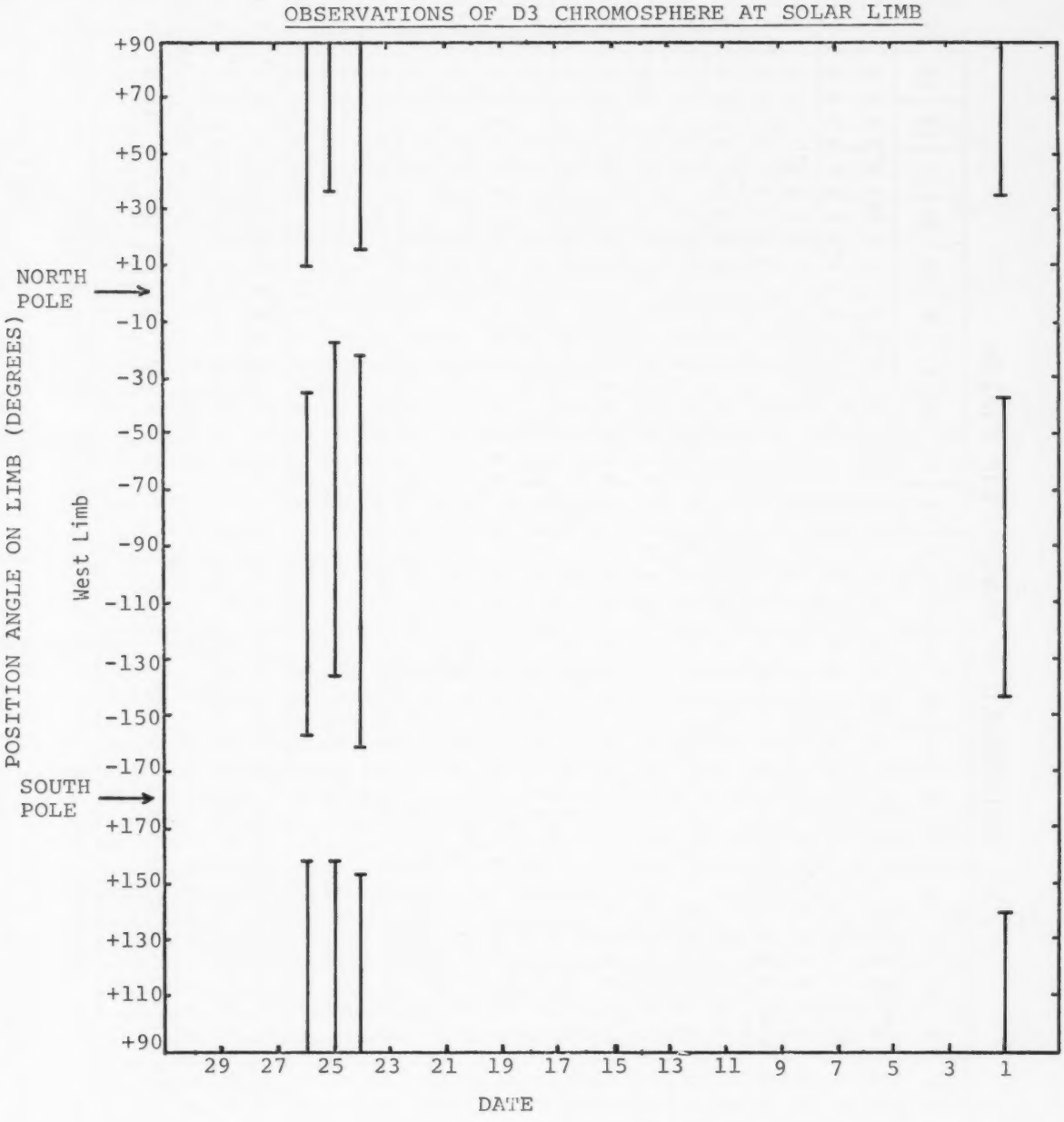
AUGUST 1976

DAY	BEGIN TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}	MAX TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}	1/2P TIME	.5-4A Wm^{-2}	1-8A Wm^{-2}
18	1840		4.4E-08	1847	2.6E-06	1.7E-05	1851		6.8E-06
22	1049		1.6E-08	1208	3.3E-06	2.7E-05	1219		1.3E-05

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

AUGUST 1976



INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1936	FEB 23	TAAAAA*	TAAAAT	AAAAAA	AAAAAA	TAAAAA	AAAAAA	AAAAAA	ATTTTT	TAAAAA	AAAAAA	TTTTTA	T*TTTA	T*TTTT	TTTTTA	A*TTTT	TTTTTA	T*TTTT	TTTTTA	T*TTTT	TTTTTA	T*TTTT	TTTTTA	T*TTTT	TTTTTA	A*TTTT	TTTTTA	A*TTTT
1937	MAR 22	AAAATA	A TTAA*	AAAAAA	AAAAAA	ATA*TA	AAAAAA	TAATTT	TTTTTT	*TTTTT	*TTTTT	TTTTTT	*TTTTT	TTTTTT	*TTTTT	A*TTTT	ATATTT	ATTTTT	AAAAAA	TTTTTT	TTTTTT	AAAAAA	TTTTTT	AAAAAA	TTTTTT	AAAAAA	TTTTTT	AAAAAA
1938	APR 18	AAAAAA	AAAA*	AA-AAA	AAAAAA	TTTTTT	-TTT-T	TTTTT-	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	A A*TTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	A A*TTT	TTTTTT	-ATTTT	TTTTTT	ATATTT	TTTTTT	TATTTT
1939	MAY 15	TTAATA	TAAAAT	TTA-*A	AAAAAA	-----T	-----T	-----T	-----T	-----T	-----T	-----T	-----T	-----T	-----T	T-*-*-	**TTTT	TAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA
1940	JUN 11	AAAAAA	AAAAA*	-----	-----	-----	-----	-----	AAAAAA	AAAAAA	AAAAAA	TAAAAT	AAAAAA	AATAAA	AAAAAA	AAAAAA	TTTTTT	TTAAAA	TA*AAA	TTTTTT	TTTTTT	TT*TT*	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1941	JUL 8	AAAAAA	AAAATA	A*AAAT	A*AAAA	TTTTTT	AAAAAA	AAAAAA	TTTTTT	AAAAAA	AAAAAA	TTTTTT	AAAAAA	A*-*AA	A*ATAA	AAAAAA	TTTTTT	TTTTTT	TAAATT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	ATATAA	AAAAAA	AAAAAA
1942	AUG 4	AAAAAA	TAAATT	ATAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	ATTT-A	TTT*.T	TTATTT	TTTTTT	T-ATAT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	AAAAAA	AAAAAA
1943	AUG 31	AAAATA	A*TTAA	AAAATA	AT T*A	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAA*	AAAAAA	A*AAA*	A*A*AT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	T-TTA	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TATAA	AAAAAA
1944	SEP 27	AATAAA	AAATTT	TA-A-A	AA*AAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAA*	ATATTT	AAAAAA	AAAAT*	TAATTT	TAAATT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TAAA-	AAAAAA
1945	OCT 24	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TAAAA*	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	A*A*A*	AAAAAA	AAA*AT	-AT-AT	ATTATT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1946	NOV 20	ATA*TT	TAATTT	A A T*A T*	AAA-A-	A-A-AA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAA*A*	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AATAAT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1947	DEC 17	T-TTTT	TTTTTT	TTTTTT	TTTTTT	TA*ATA	TAT*AT	TA*TAA	*ATATA	*ATTAA	*ATTAA	*ATTAA	*TAAAA	*AAAAA	*AAAAA	AAAAAA	AAAAAA	TT*TAT	*TTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	A*TA*	T*T*TT	TTTTTT
1948	1976 JAN 13	TATTT*	TTAATA	TAATAT	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1949	FEB 9	TATATT	T-T-AT	T-TA TA	TA*TAT	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAAA*T	TTAATA	TAAAAA	AAAAAA	AAAAAA	AAAAAA	TAAATT	TTTT*T	TATTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1950	MAR 7	TATATT	TTTTTT	TTTTT-	TTAA*A	*AAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	*T*TAT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1951	APR 3	TTTTTT	TTTTTT	TTTTTT	TTTTTT	*AAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	*AAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	ATATAT	*ATTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1952	APR 30	TTATTT	TTTTTT	TTTTTT	TTTTTT	TTTTTA	AATT*A	AAAA-A	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	TTTTTT	AAAAAA	A*ATAT	ATTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1953	MAY 27	T-TTTT	TTTTTT	TTTTTT	TTTTTT	*TATAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	ATATAT	A-T*AA	AAAAA-	TTTTTT	AAAAAA	AAAAA-	TTTATT	TTAATT	T*AAAT	TAAAAA	AAAAAA	TTTTTT	TTTTTT	TTTTTT	TTTTTT	TTTTTT
1954	JUN 23	TTTTTT	TTTTTT	TTTTTT	ATATAT	TTTAAA	TAATAA	TAAAAA	TAAAAA	TAAAAA	TAAAAA	TAT*AT	AAAAAA	AAAAAA	AAAAAA	TAA*TT	TAAAAA	AAAAAA	AAAAAA	ATTTTT	TAATAT	ATTTTT	AAAAAA	A*ATAT	ATTTTT	TAAAAA	TAAAAA	TA*AAT
1955	JUL 20	TAAT*T	TAAAAA	AAAAAA	AAAAAA	TAAAAA	AAAAAA	AAAAAA	AAAAAA	AAAAAA	TAA*TT	TAAA A	T A T A	T A T A	- TA A	T* TA -	TA A T	T A A										
1966	AUG 16	A T T T*	A T A T	A T A T	A T A T	A T A T	A T A T	T* A A	A T* * A																			

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service operated by the Air Force Geophysics Laboratory at the Thule Geopole Station is used for the second half of the day.

Note: Inferred IMF data for August 1976 based on the Vostok Station have not been received at time of publication.

JULY 1976 DATA

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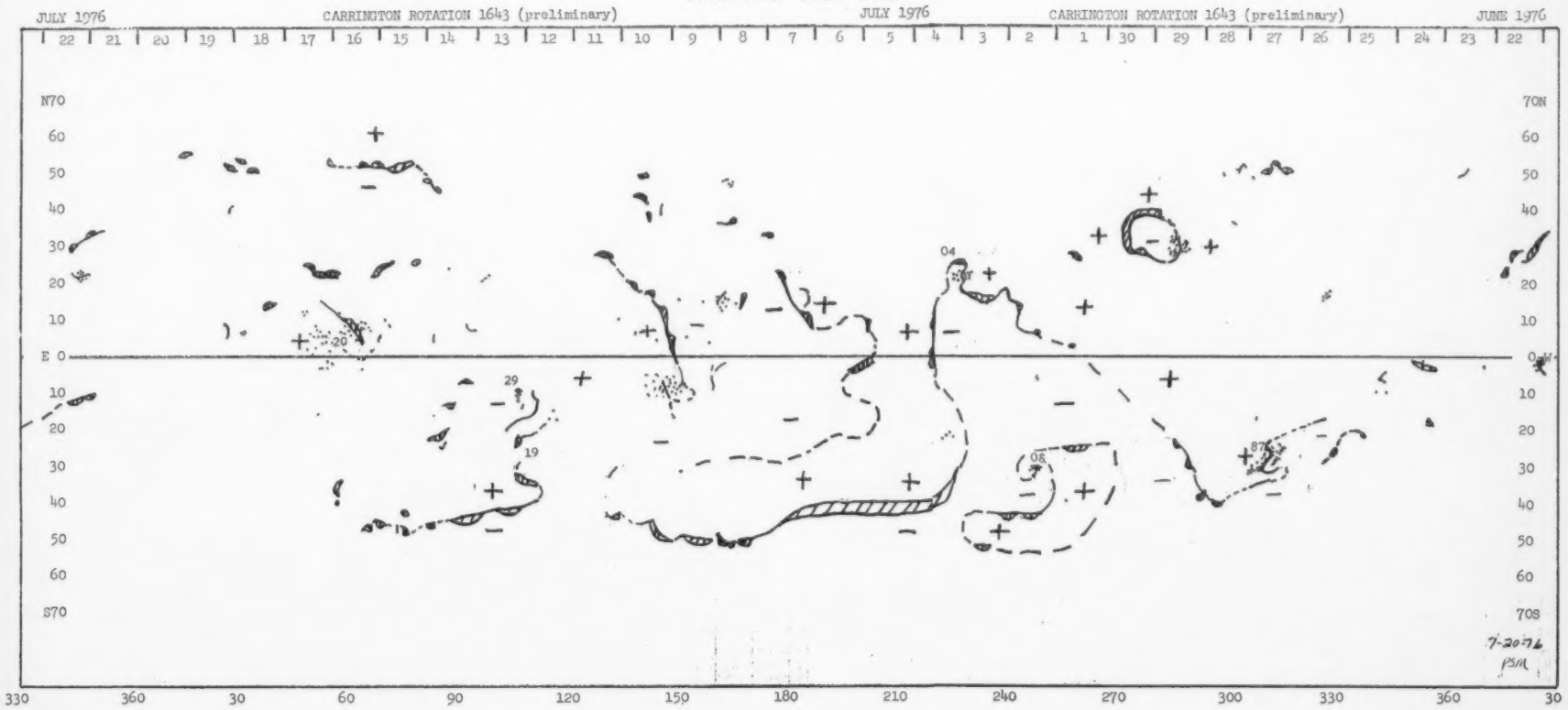
24
Jul 76

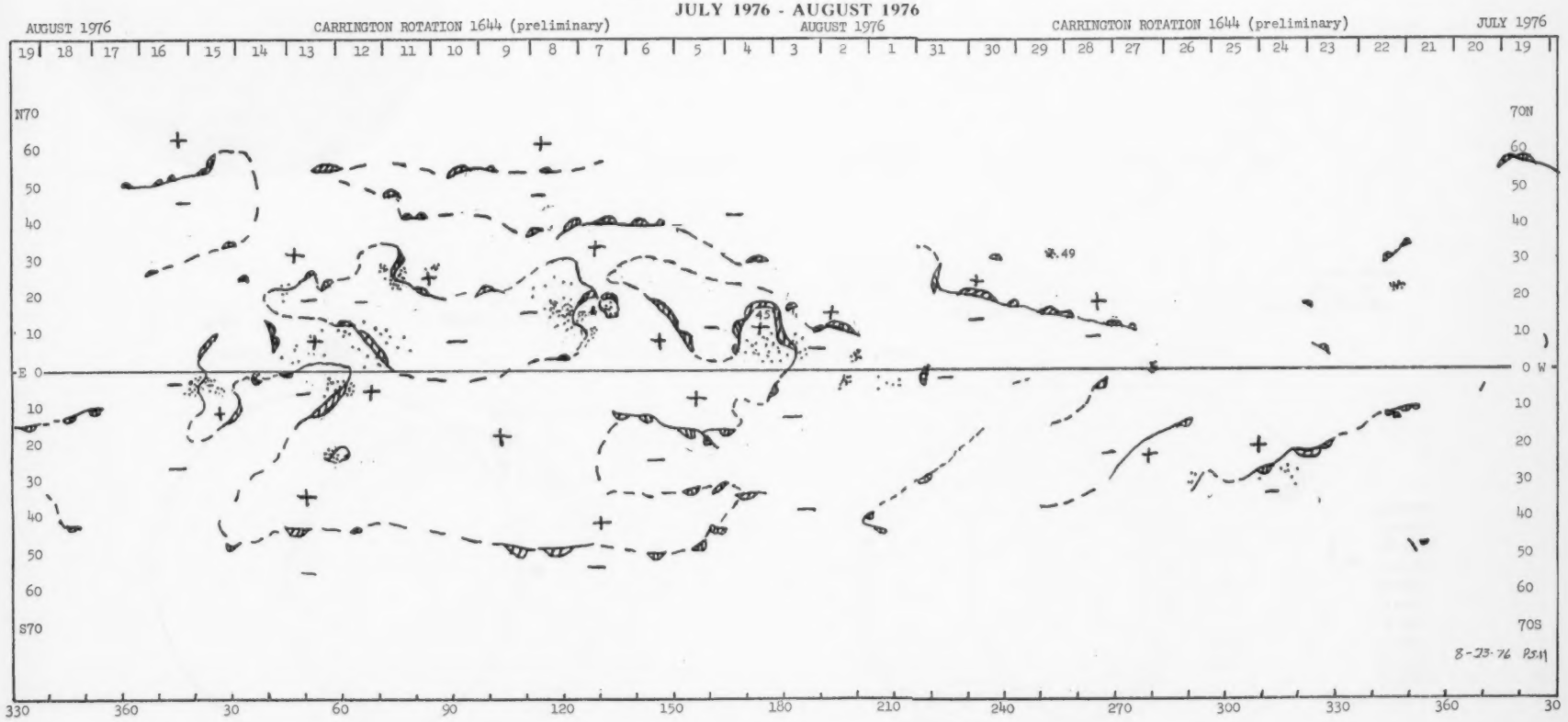
Hα SYNOPTIC CHART

JUNE 1976 - JULY 1976



Hα SYNOPTIC CHART

JULY 1976 - AUGUST 1976

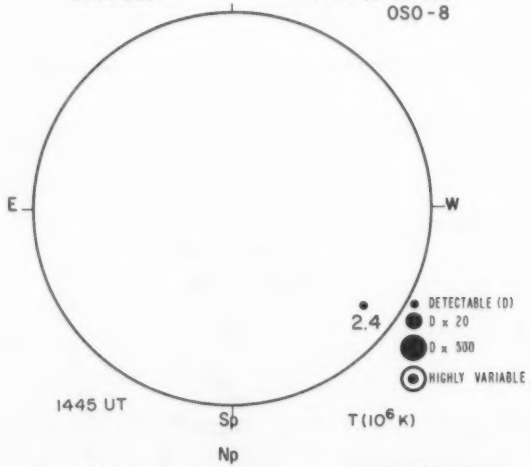


25 Jul 76

JULY 1, 1976 (P = -2.63, B_o = 2.92, L_o = 266.65)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



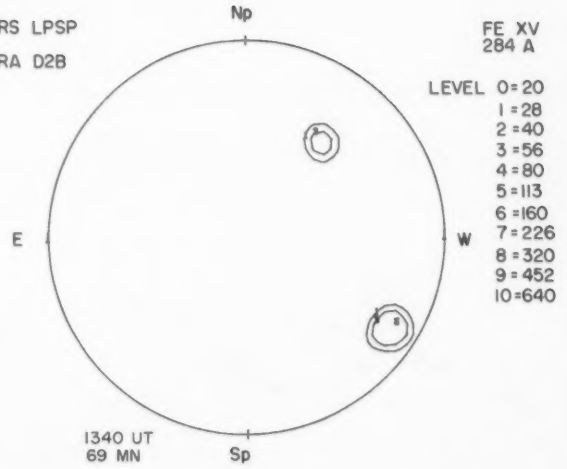
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

NO MAGNETOGRAMS WERE PRODUCED AT KITT PEAK OBSERVATORY DURING THE MONTH OF JULY 1976.

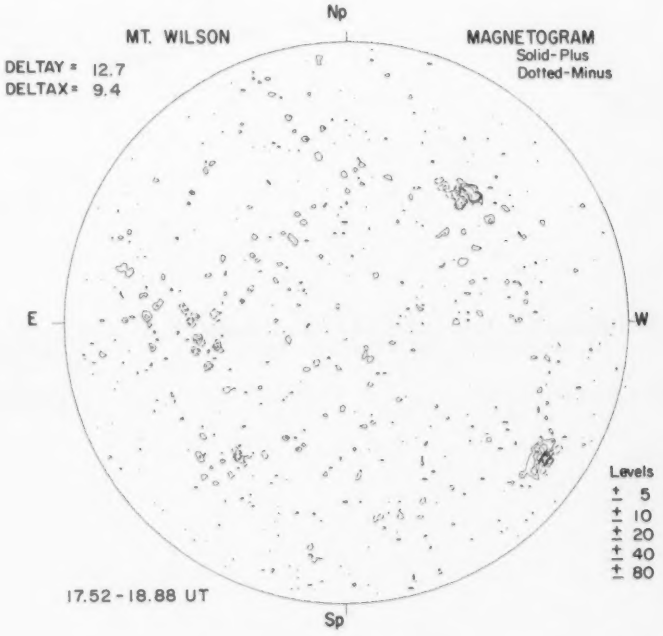
CNRS LPSP
AURA D2B

FE XV
284 A

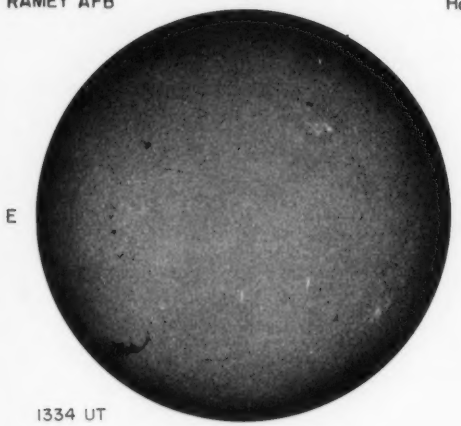


MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus



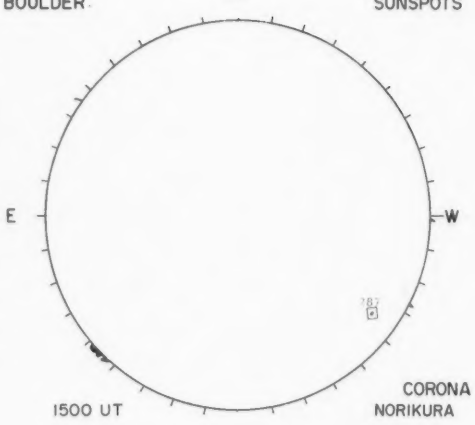
01
RAMEY AFB



1334 UT

Hα

BOULDER

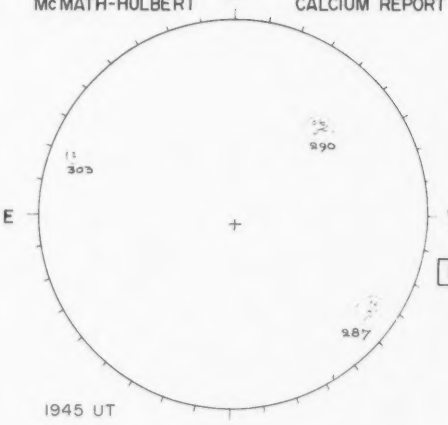


1500 UT

SUNSPOTS

CORONA
NORIKURA

McMATH-HULBERT



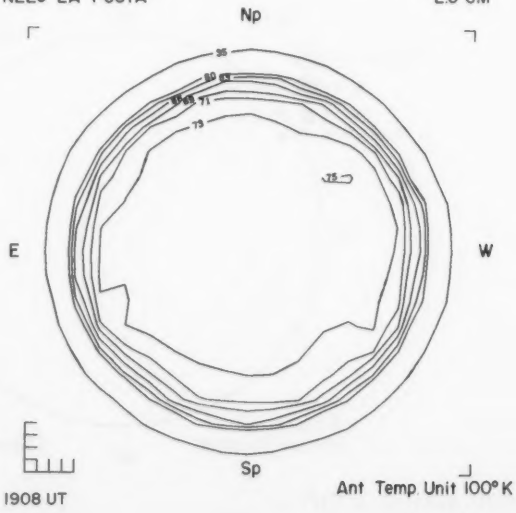
1945 UT

CALCIUM REPORT

POOR M

NELC LA POSTA

2.0 CM

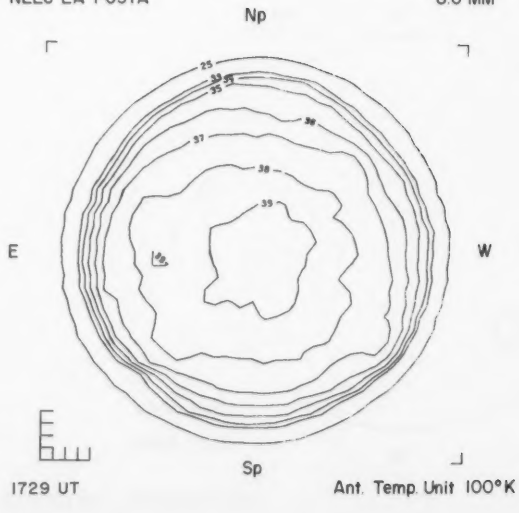


1908 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

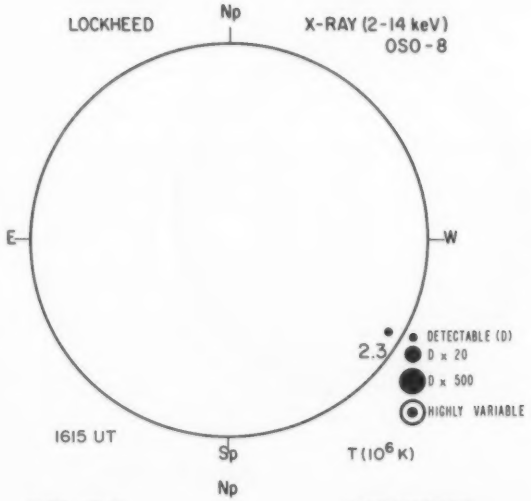


1729 UT

Ant. Temp. Unit 100°K

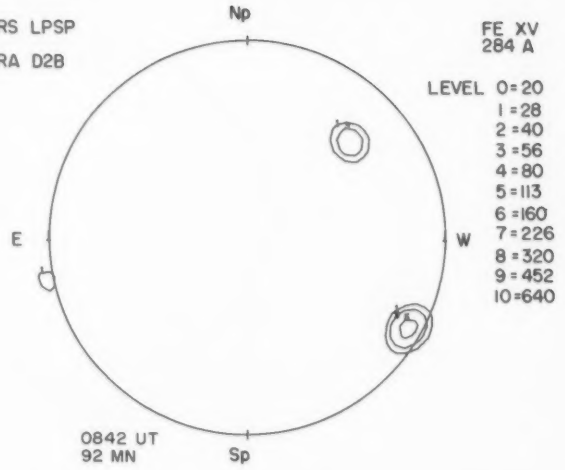
27
Jul 76

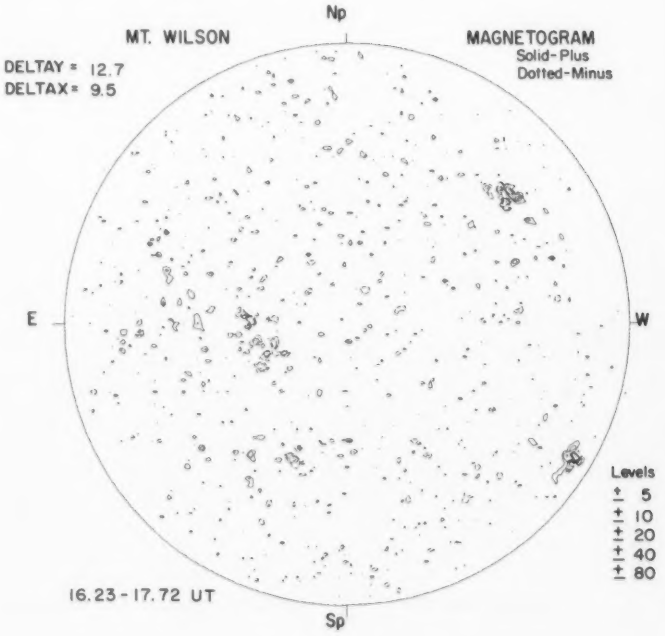
JULY 2, 1976 (P =-2.18, B_0 = 3.03, L_0 = 253.42)



KITT PEAK

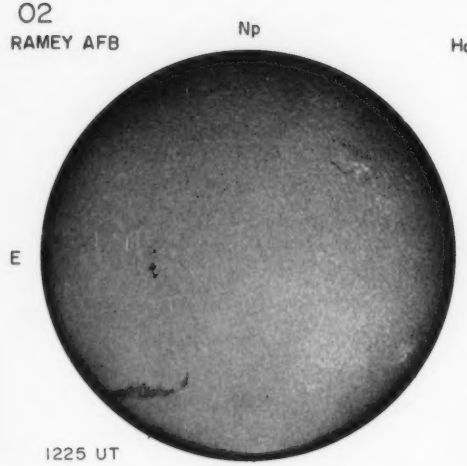
MAGNETOGRAM
Bright - Plus
Dark - Minus





02

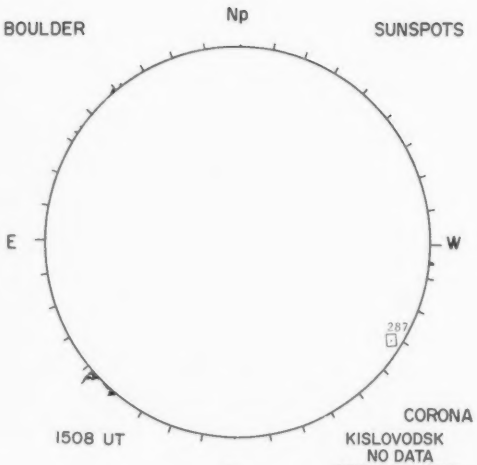
RAMEY AFB



Hα

1225 UT

BOULDER



SUNSPOTS

1508 UT

CORONA

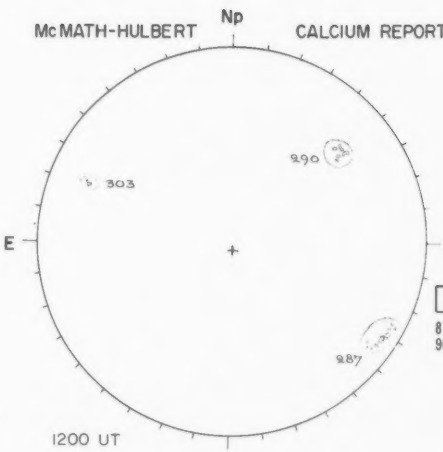
KISLOVODSK

NO DATA

255°,330°,355°

McMATH-HULBERT

CALCIUM REPORT



1200 UT

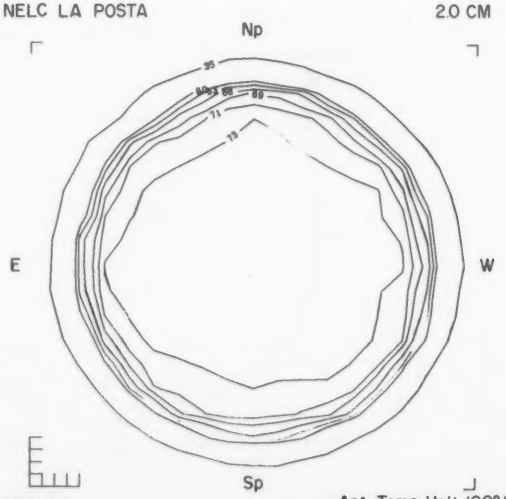
FAIR D

87-0800-2.5

90-0400-2.5

NELC LA POSTA

2.0 CM

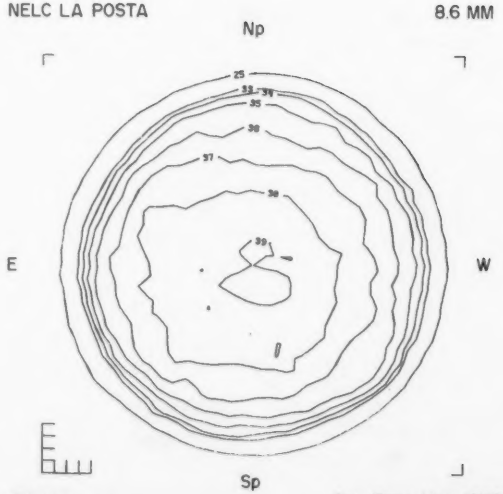


1959 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



1730 UT

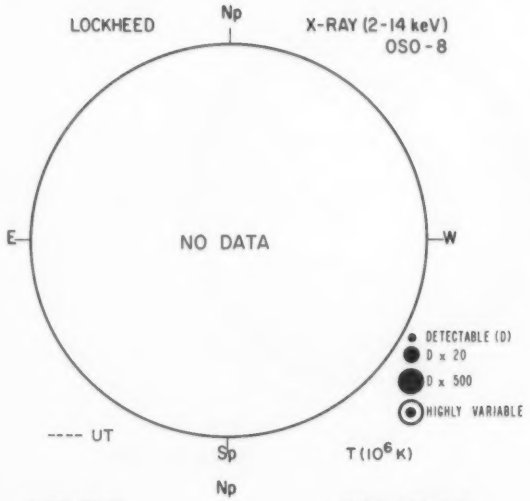
Ant. Temp. Unit 100°K

29 Jul 76

JULY 3, 1976 (P = -1.73, B_0 = 3.14, L_0 = 240.18)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



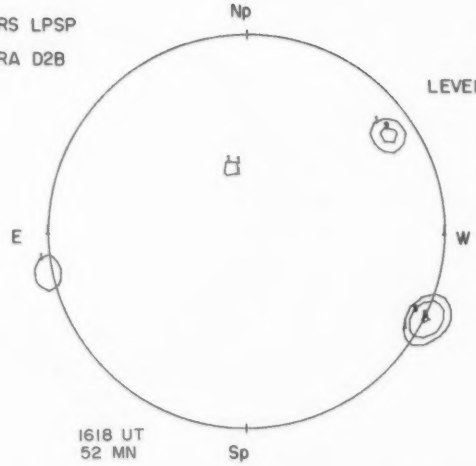
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

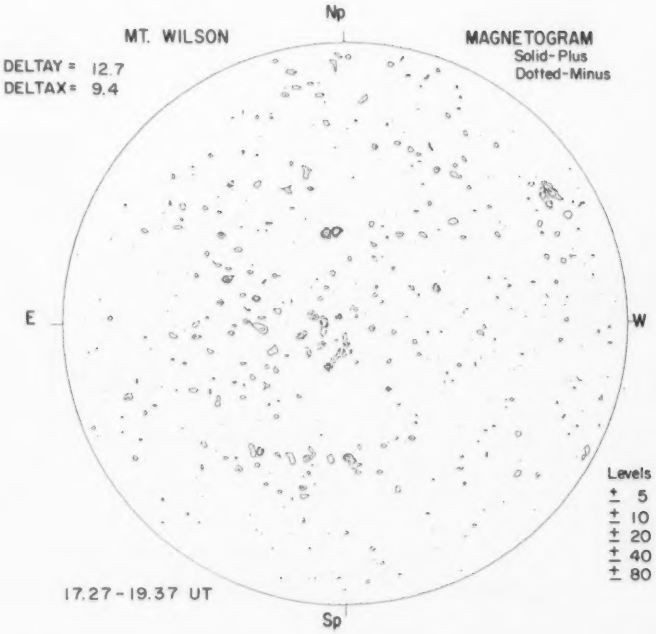


1618 UT
52 MN

MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

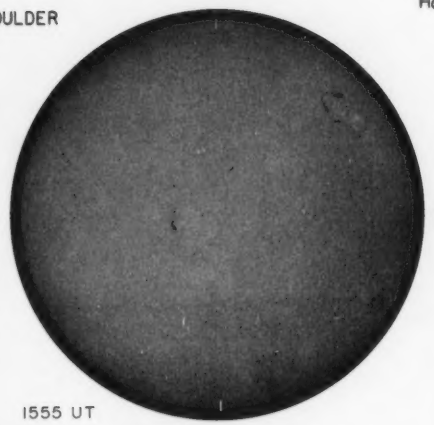
MAGNETOGRAM
Solid - Plus
Dotted - Minus



17.27 - 19.37 UT

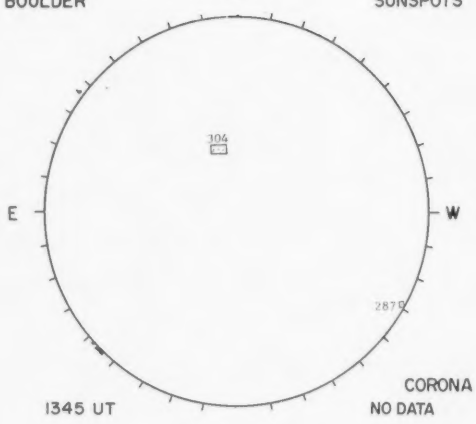
03

BOULDER



1555 UT

Hα BOULDER



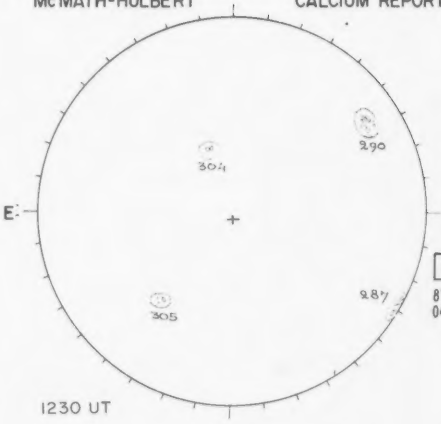
1345 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



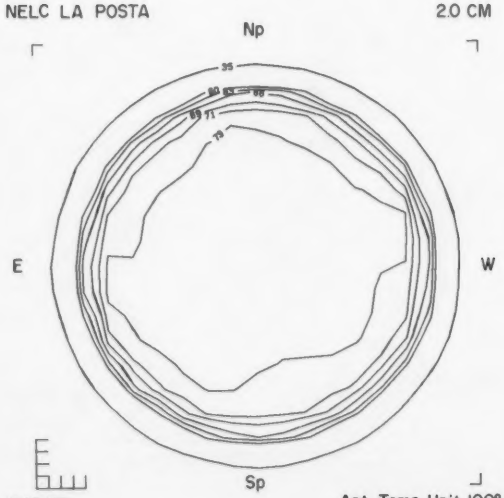
1230 UT

CALCIUM REPORT

GOOD	M

87-0800-2.5
04-0200-2.5

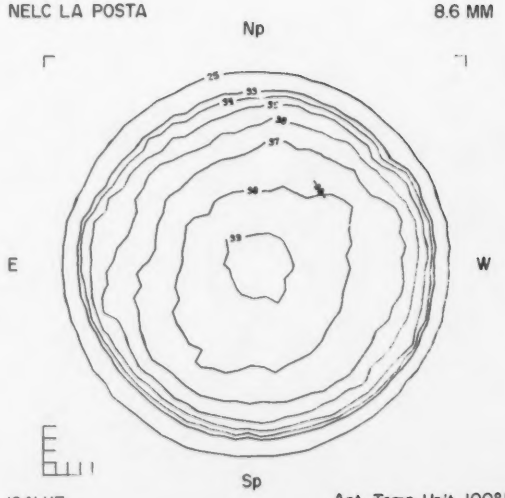
NELC LA POSTA 2.0 CM



1845 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



1941 UT

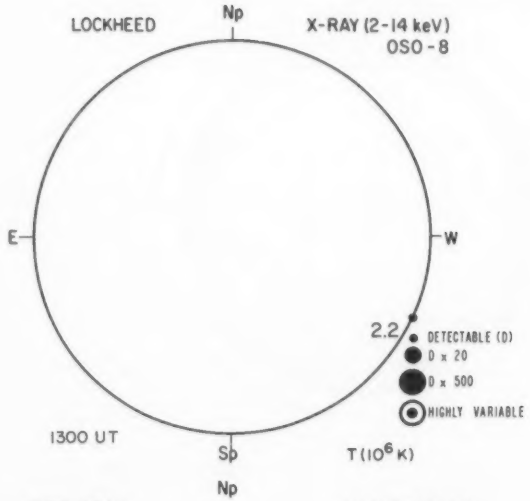
Ant. Temp. Unit 100°K

31
Jul 76

JULY 4, 1976 (P = -1.27, B_o = 3.25, L_o = 226.94)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



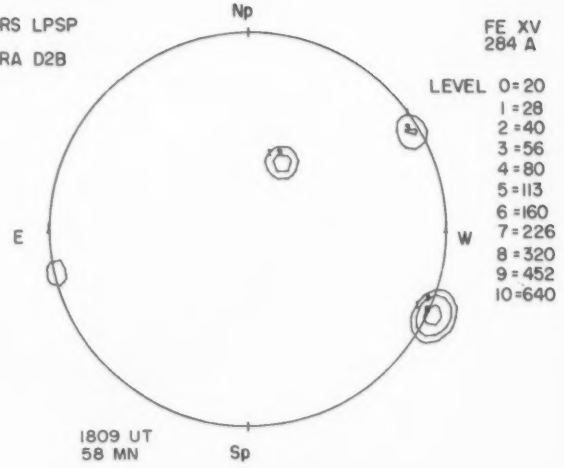
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

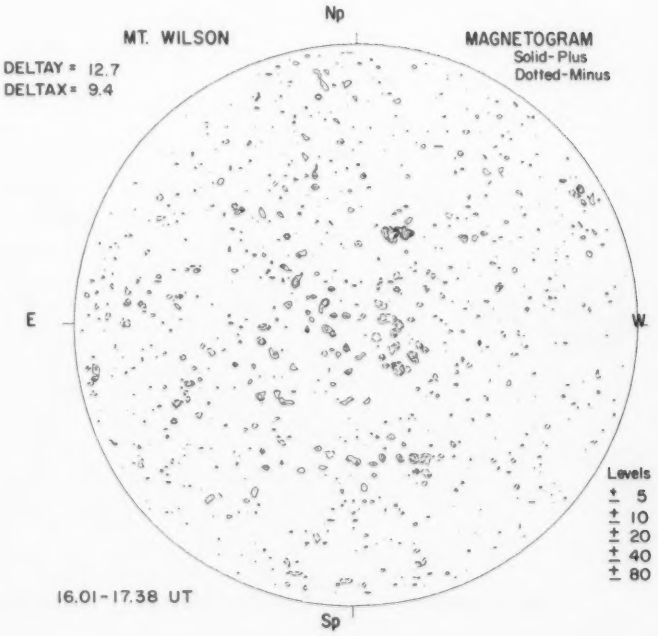
LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640



MT. WILSON

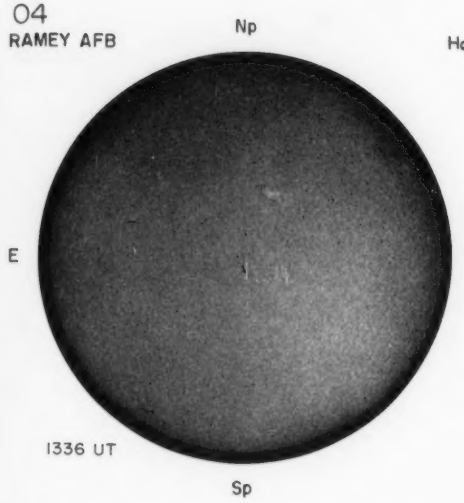
MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 12.7
DELTAX = 9.4



04

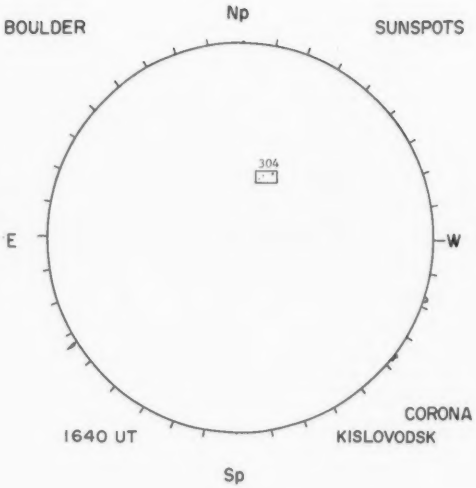
RAMEY AFB



1336 UT

Hα

BOULDER



1640 UT

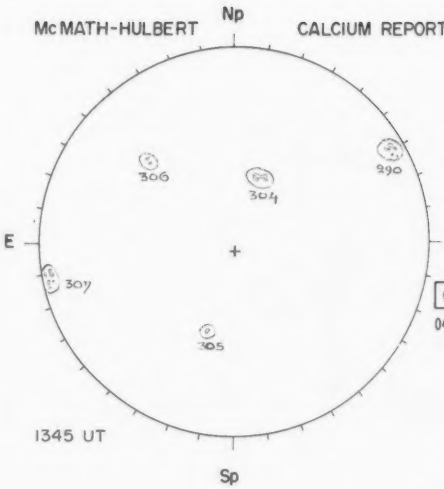
SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT

CALCIUM REPORT



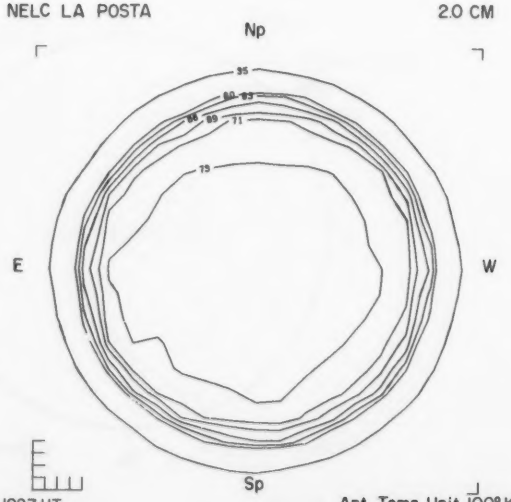
1345 UT

GOOD | M

04 - 0500 - 3.0

NELC LA POSTA

2.0 CM

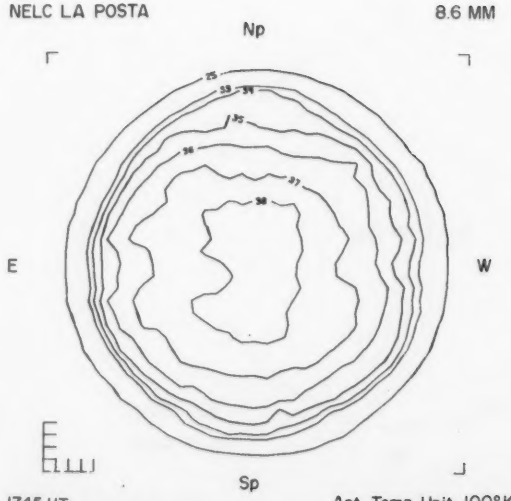


1927 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

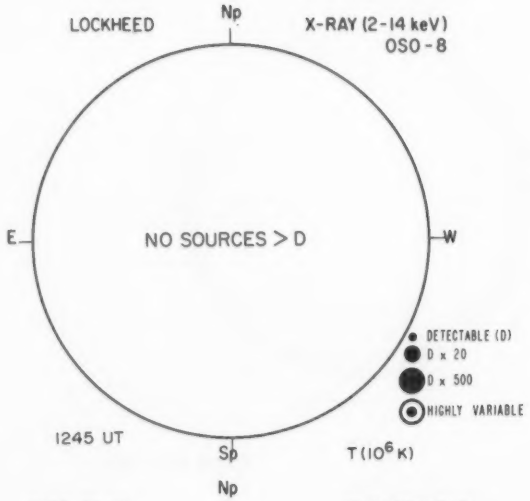


1745 UT

Ant. Temp. Unit 100°K

JULY 5, 1976 (P = -0.82, B_0 = 3.36, L_0 = 213.71)

LOCKHEED

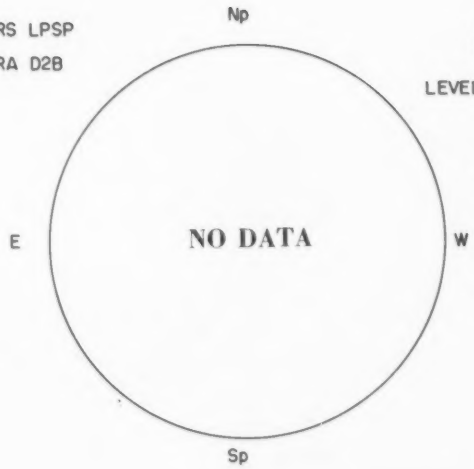


X-RAY (2-14 keV)
OSO-8

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

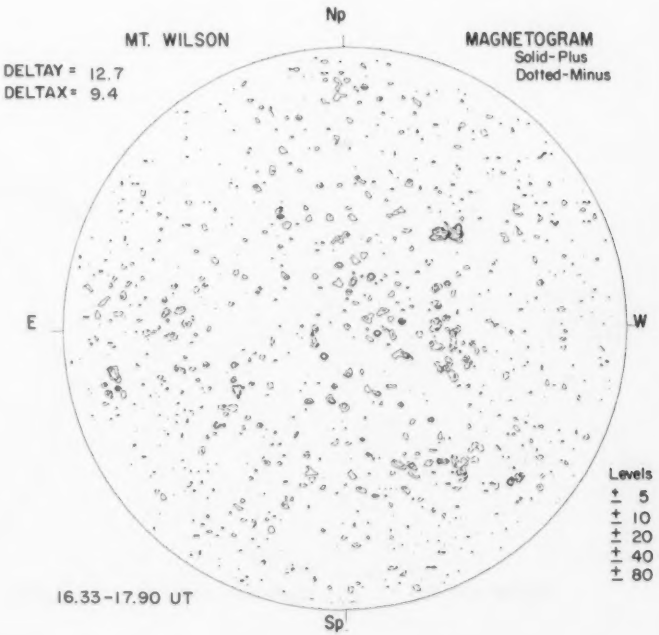


FE XV
284 A

LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

MT. WILSON

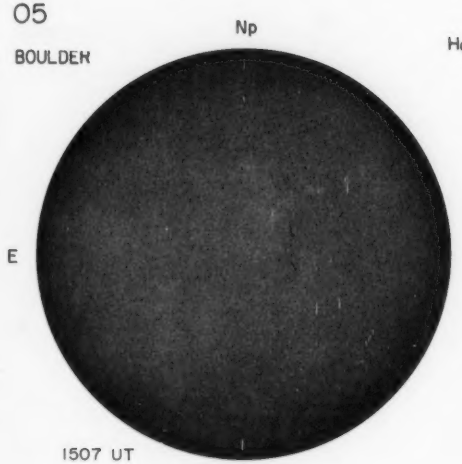
DELTAY = 12.7
DELTAX = 9.4



MAGNETOGRAM
Solid - Plus
Dotted - Minus

05

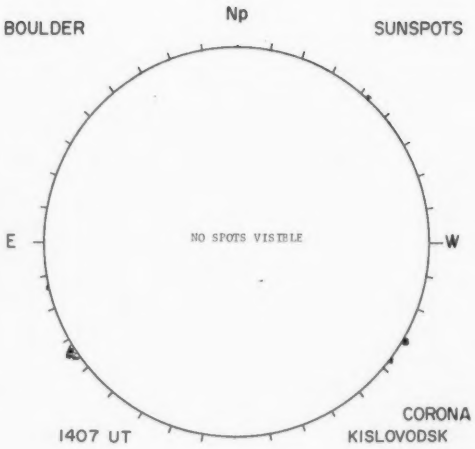
BOULDER



1507 UT

Hα

BOULDER



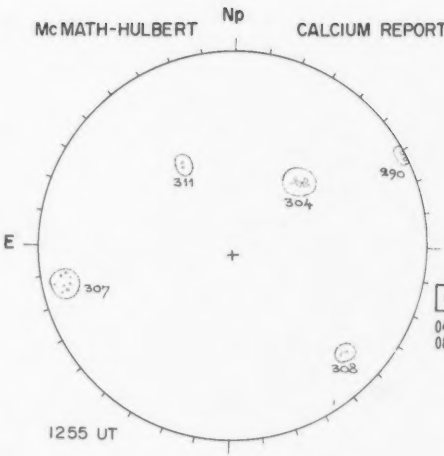
1407 UT

SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT



1255 UT

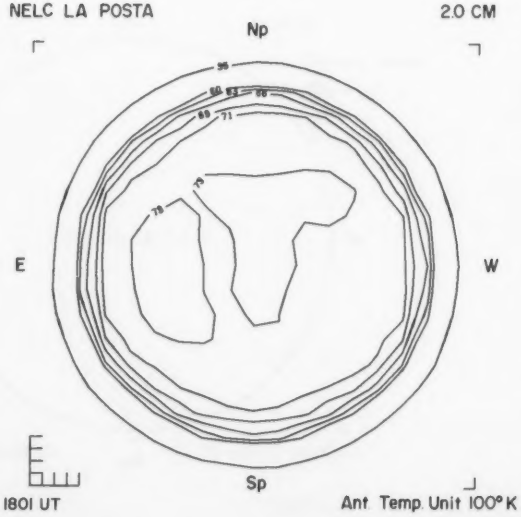
CALCIUM REPORT

GOOD	M

04-0500-2.5
08-0200-2.5

NELC LA POSTA

2.0 CM

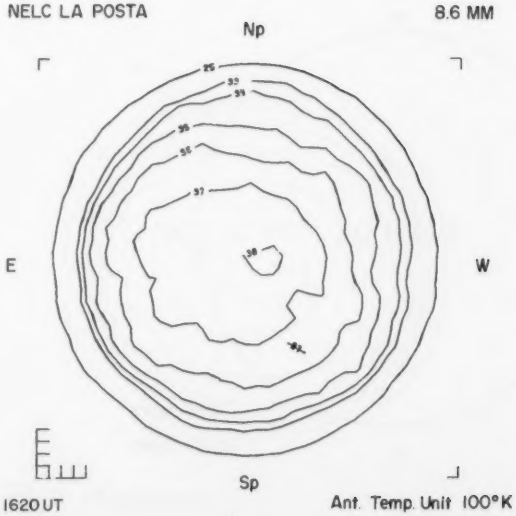


1801 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



1620 UT

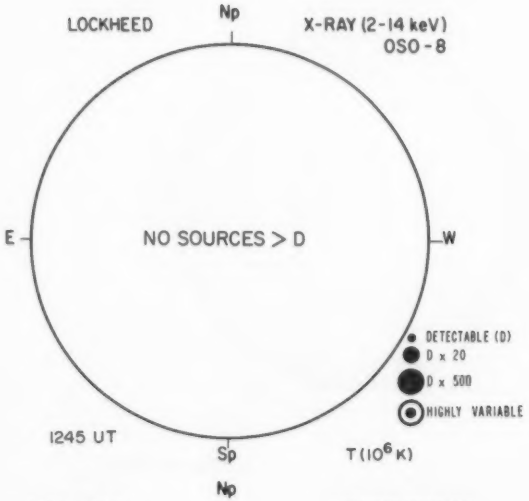
Ant. Temp. Unit 100°K

35
Jul 76

JULY 6, 1976 (P = -0.36, B_o = 3.47, L_o = 200.47)

LOCKHEED

X-RAY (2-14 keV)
OSO-8

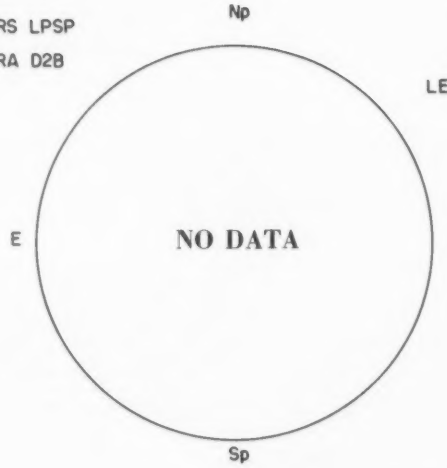


KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

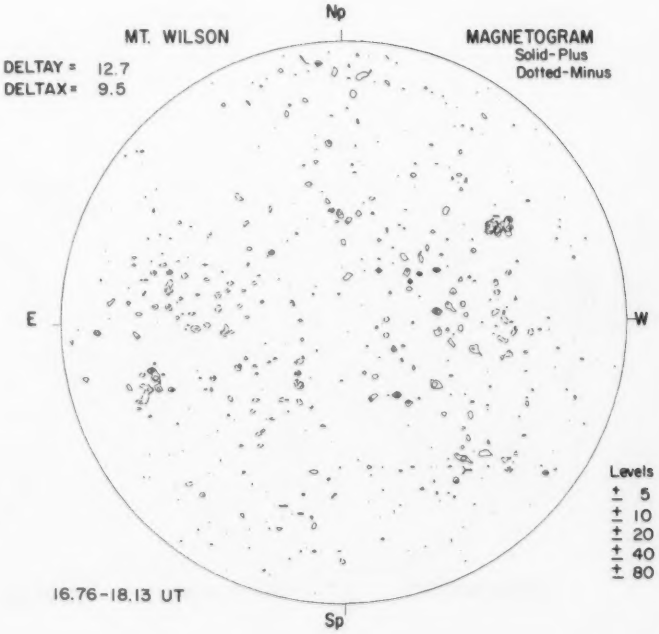


LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

MT. WILSON

DELTAY = 12.7
DELTAX = 9.5

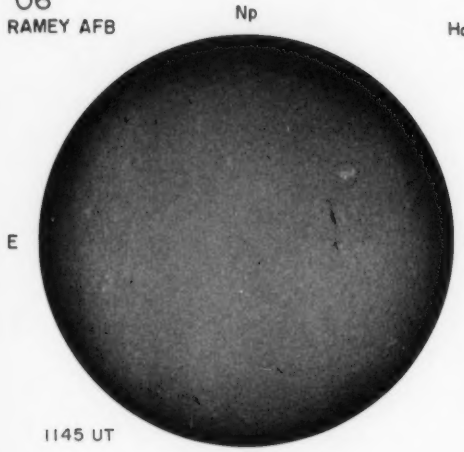
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

06

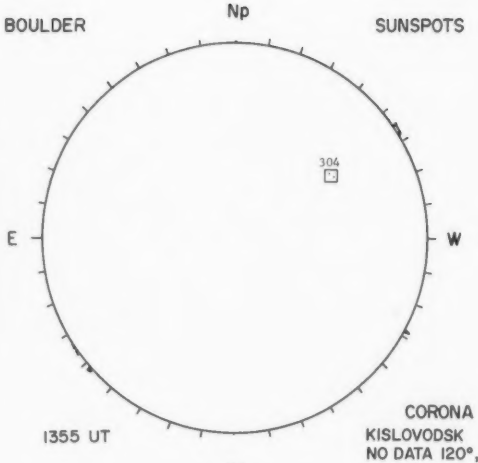
RAMEY AFB



1145 UT

Hα

BOULDER



1355 UT

SUNSPOTS

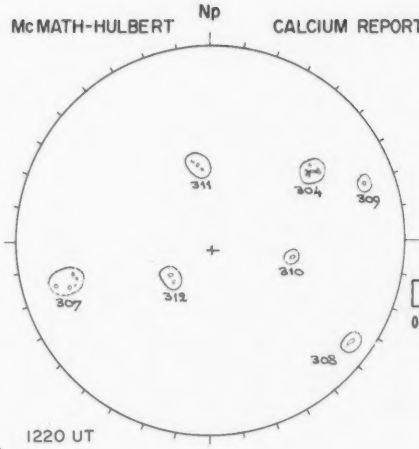
CORONA

KISLOVODSK

NO DATA 120°, 175°

McMATH-HULBERT

CALCIUM REPORT



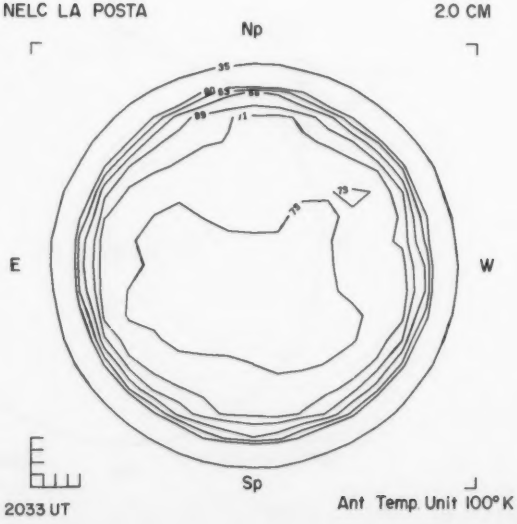
1220 UT

GOOD | S

04-0500- 3.0

NELC LA POSTA

2.0 CM

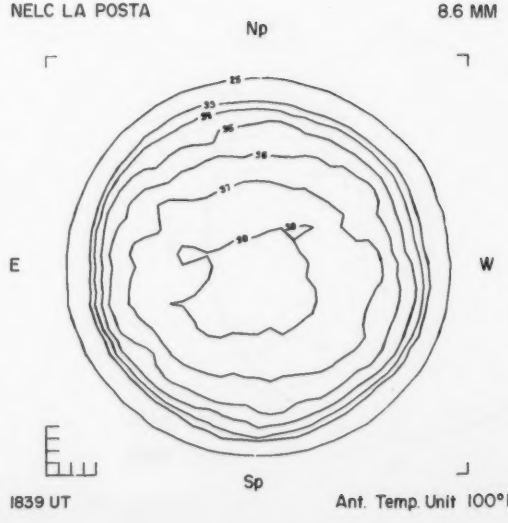


2033 UT

Ant Temp Unit 100°K

NELC LA POSTA

8.6 MM



1839 UT

Ant. Temp. Unit 100°K

37

Jul 76

JULY 7, 1976 (P = 0.09, B_o = 3.57, L_o = 187.24)

LOCKHEED

Np

X-RAY (2-14 keV)
OSO-8

E

NO SOURCES > D

W

DETECTABLE (D)
D x 20
D x 500
HIGHLY VARIABLE

1230 UT

Sp

T(10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

Np

FE XV
284 A

LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

E

W

0817 UT
87 MN

Sp

E

W

Sp

Np

MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid - Plus
Dotted - Minus

E

W

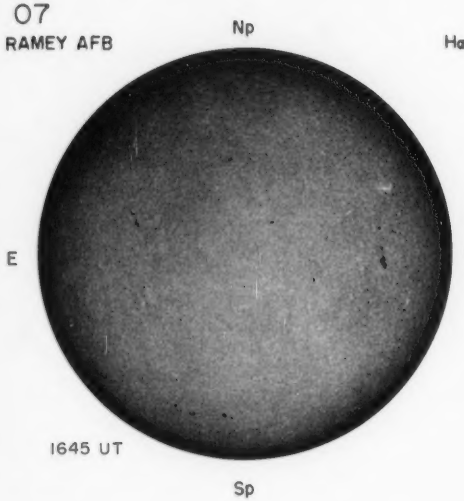
Levels
± 5
± 10
± 20
± 40
± 80

15.81 - 17.18 UT

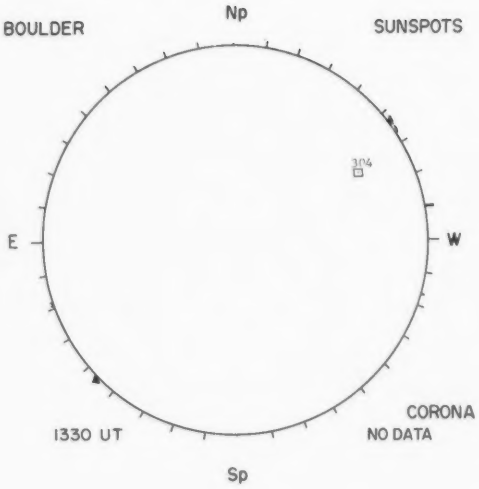
Sp

07

RAMEY AFB



Hα BOULDER



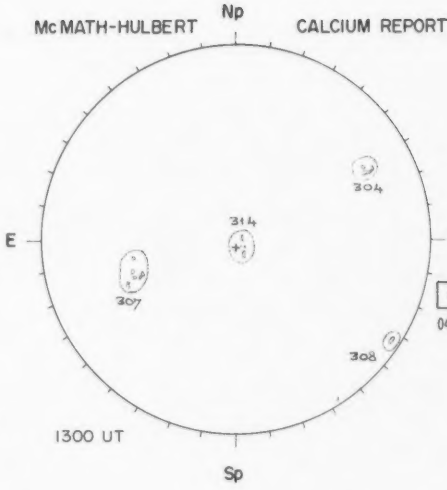
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

CALCIUM REPORT

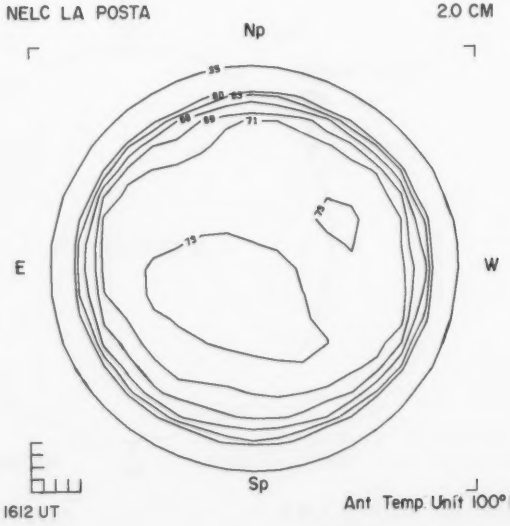


GOOD | S

04-0400 - 3.0

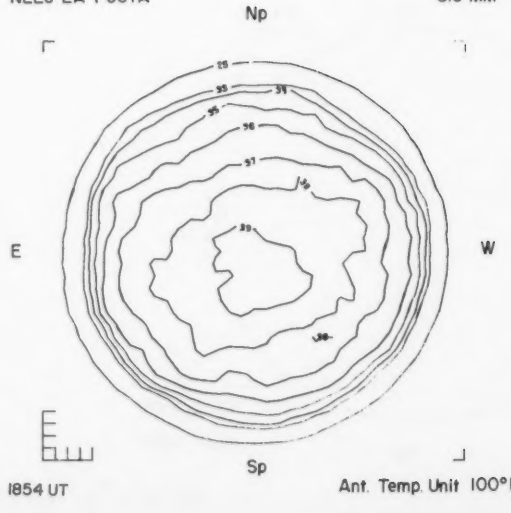
NELC LA POSTA

2.0 CM



NELC LA POSTA

8.6 MM



JULY 8, 1976 (P = 0.54, B_o = 3.67, L_o = 174.00)

LOCKHEED

Np

X-RAY (2-14 keV)
OSO-8

E — NO SOURCES > D — W

DETECTABLE (D)
D x 20
D x 500
HIGHLY VARIABLE

1230 UT

Sp

T(10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

E

W

Sp

CNRS LPSP
AURA D2B

Np

FE XV
284 A

LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

E

W

1148 UT
83 MN

Sp

Np_{VI}

MT. WILSON

DELTAY = 12.7
DELTAX = 8.6

MAGNETOGRAM
Solid - Plus
Dotted - Minus

E

W

Levels
± 5
± 10
± 20
± 40
± 80

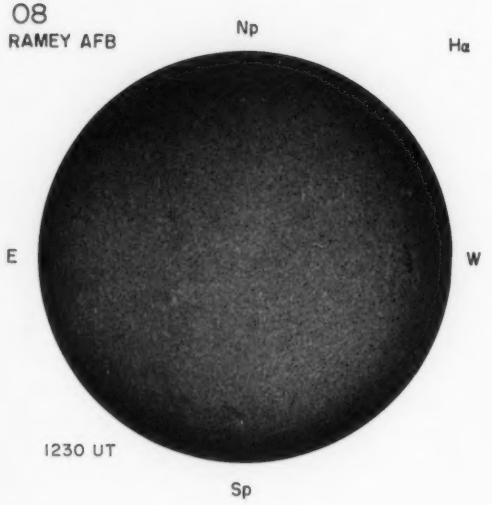
17.89-18.94 UT

DATA INCOMPLETE

Sp

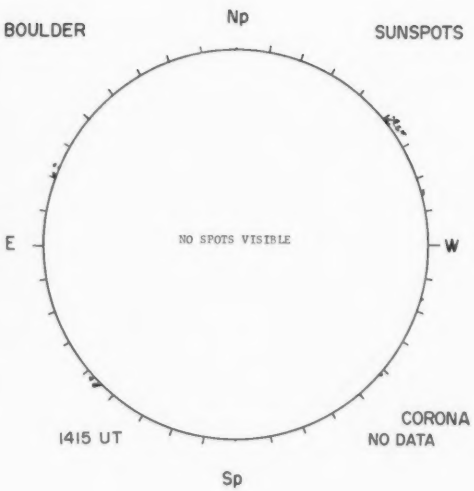
08

RAMEY AFB



1230 UT

Hα BOULDER



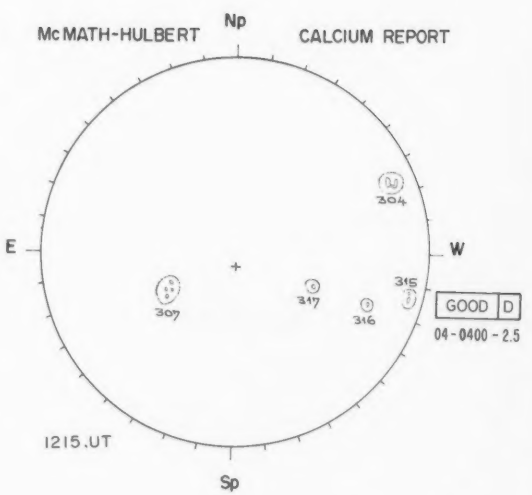
1415 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



1215.UT

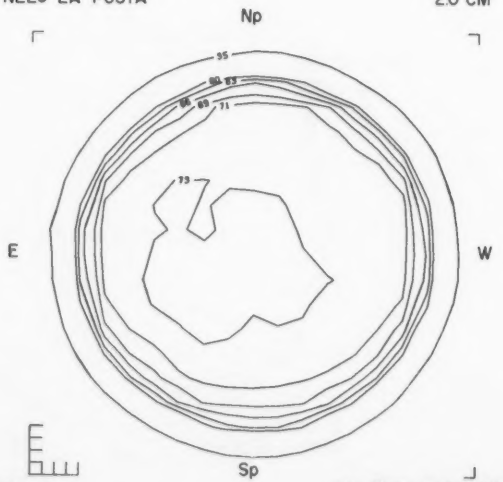
CALCIUM REPORT

GOOD | D

04-0400-2.5

NELC LA POSTA

2.0 CM

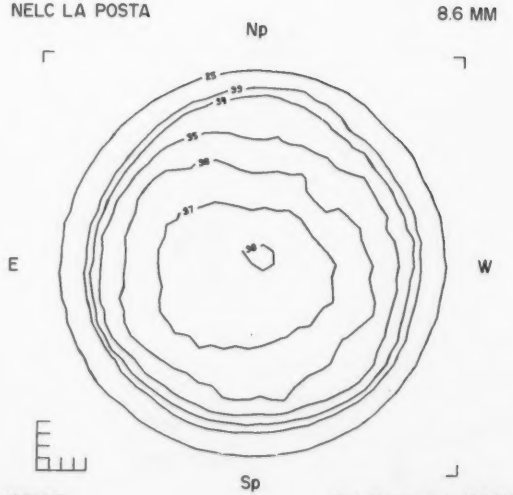


1822 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



1639 UT

Ant. Temp. Unit 100°K

JULY 9, 1976 (P = 1.00, B_0 = 3.78, L_0 = 160.77)

LOCKHEED

Np

X-RAY (2-14 keV)
OSO-8

E

NO SOURCES > D

W

DETECTABLE (D)
D x 20
D x 500
HIGHLY VARIABLE

1215 UT

Sp

T(10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

Np

FE XV
284 A

LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

W

1525 UT
87 MN

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY =
DELTAX =

E

NO DATA

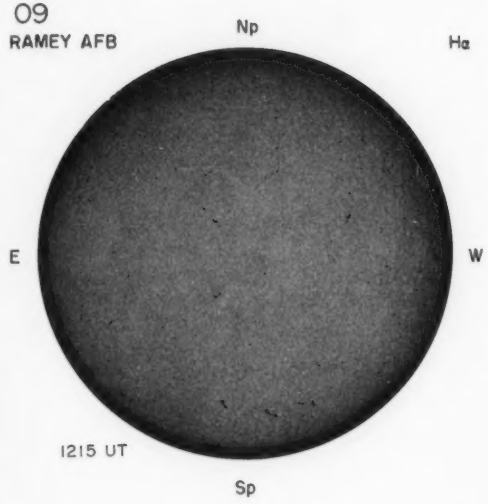
W

Levels
± 5
± 10
± 20
± 40
± 80

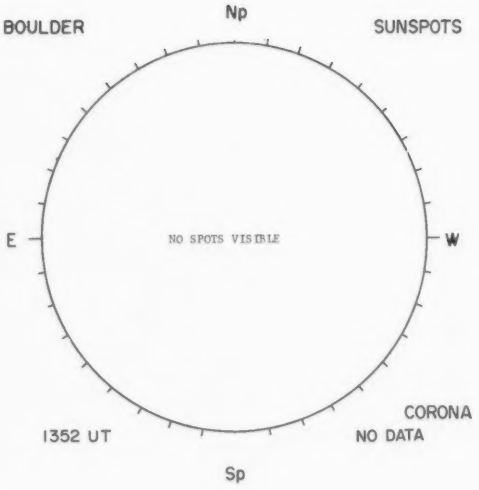
Sp

09

RAMEY AFB



BOULDER



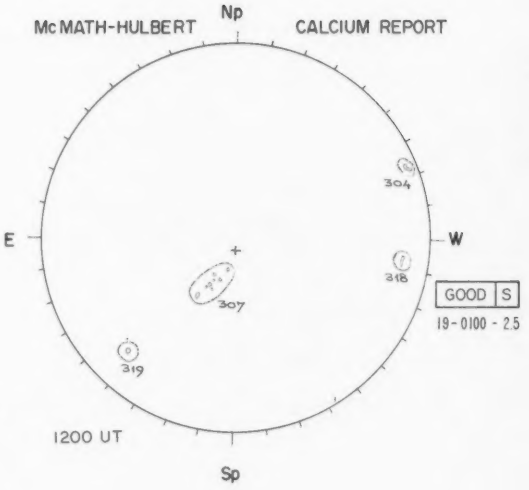
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

CALCIUM REPORT

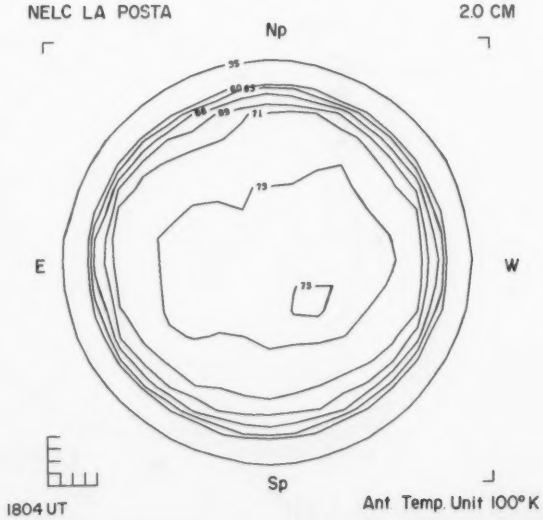


GOOD | S

19-0100 - 2.5

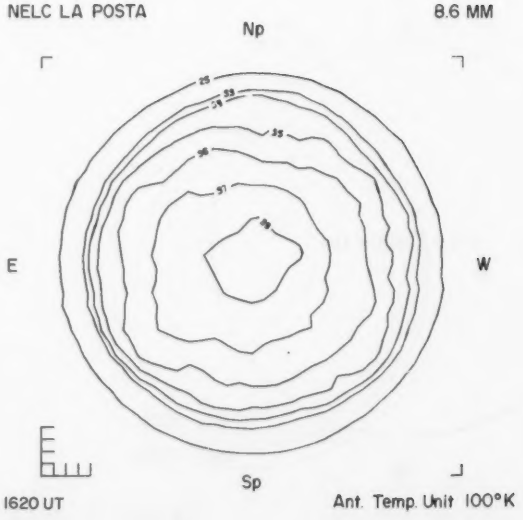
NELC LA POSTA

2.0 CM



NELC LA POSTA

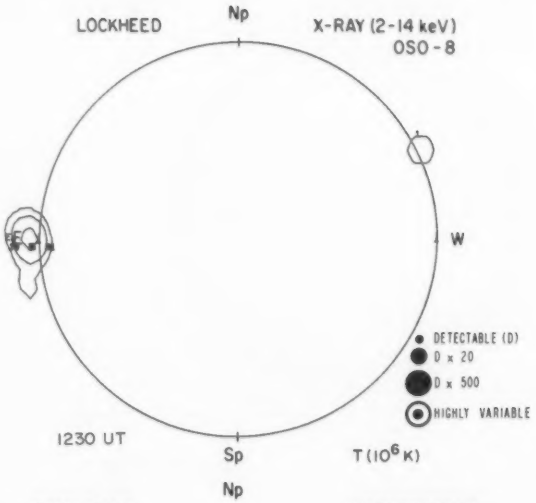
8.6 MM



JULY 10, 1976 (P = 1.45, B_o = 3.88, L_o = 147.53)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



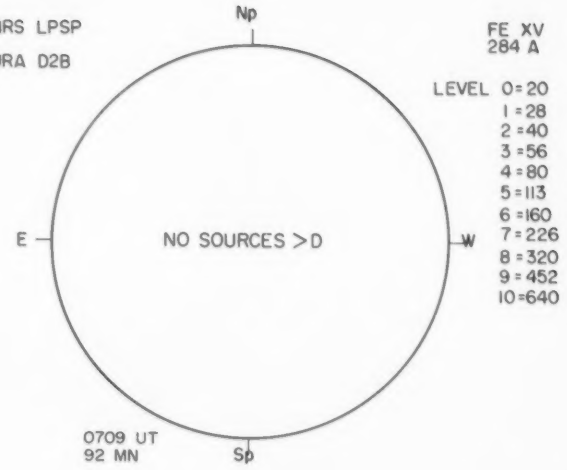
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

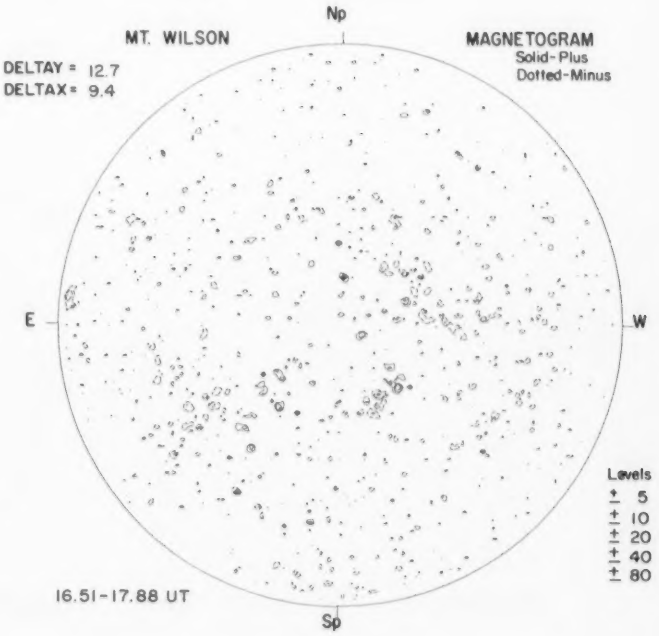
LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640



MT. WILSON

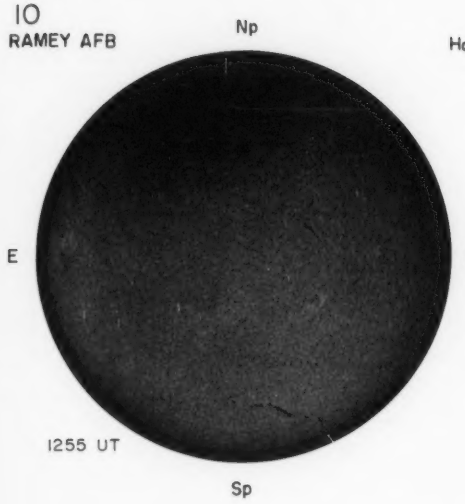
DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid - Plus
Dotted - Minus



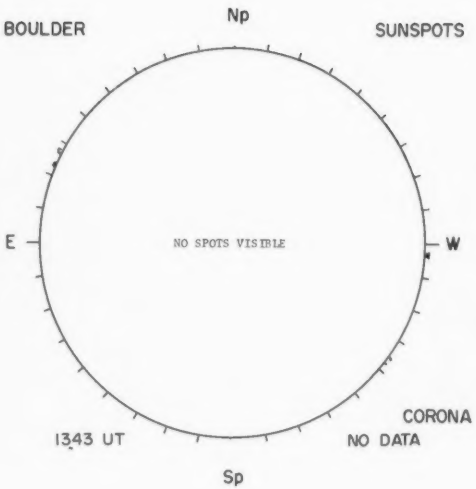
10

RAMEY AFB



1255 UT

Hα BOULDER



1343 UT

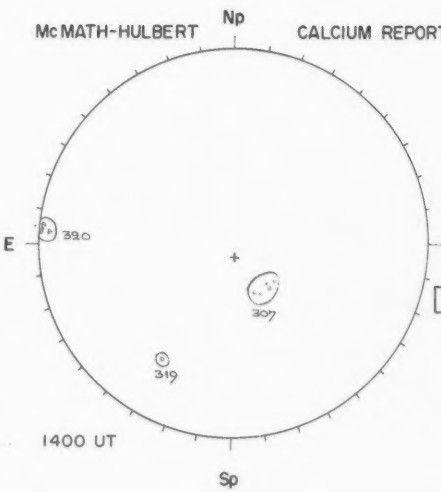
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

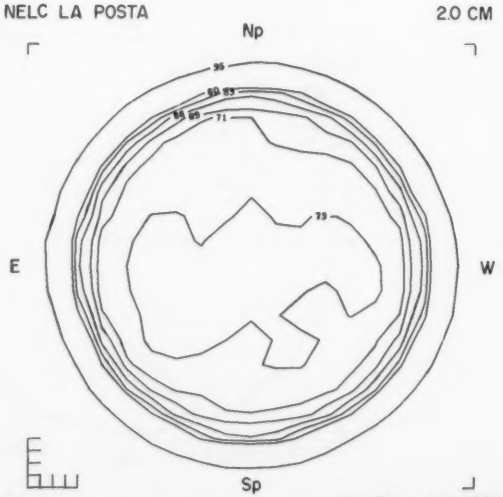
CALCIUM REPORT



1400 UT

FAIR | M

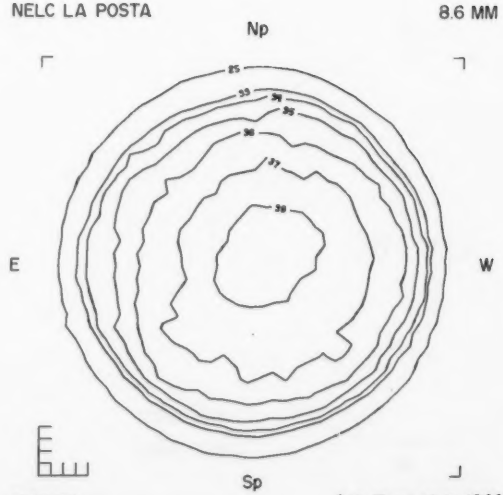
NELC LA POSTA 2.0 CM



2130 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



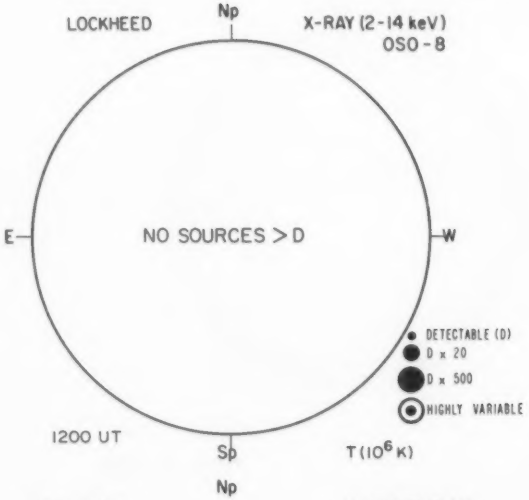
2002 UT

Ant. Temp. Unit 100°K

JULY 11, 1976 (P = 1.90, B_o = 3.98, L_o = 134.30)

LOCKHEED

X-RAY (2-14 keV)
OSO-8

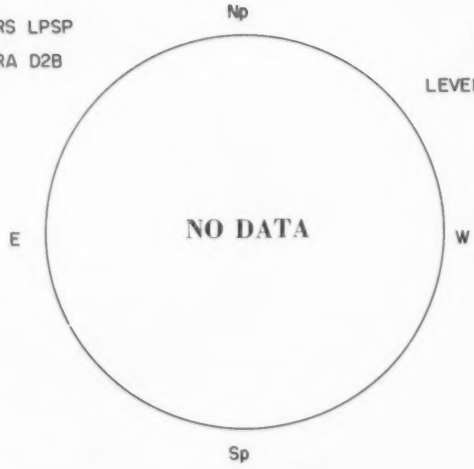


KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

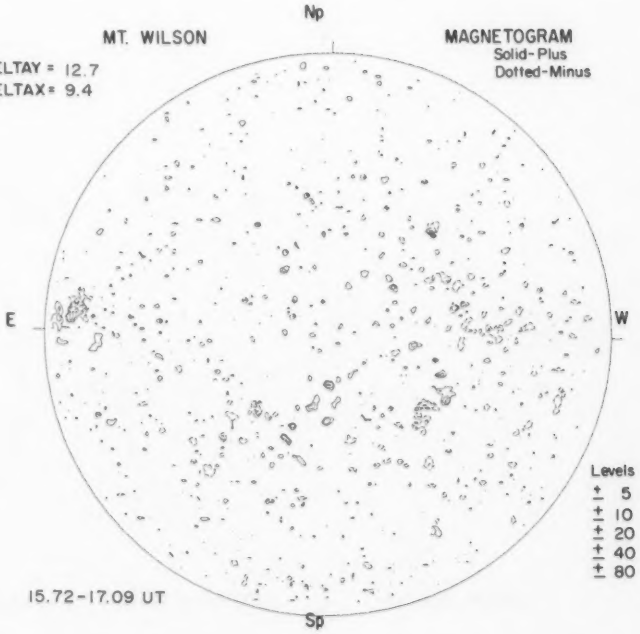


LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

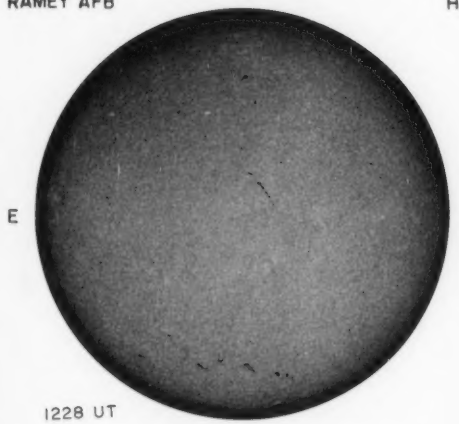
MAGNETOGRAM
Solid - Plus
Dotted - Minus



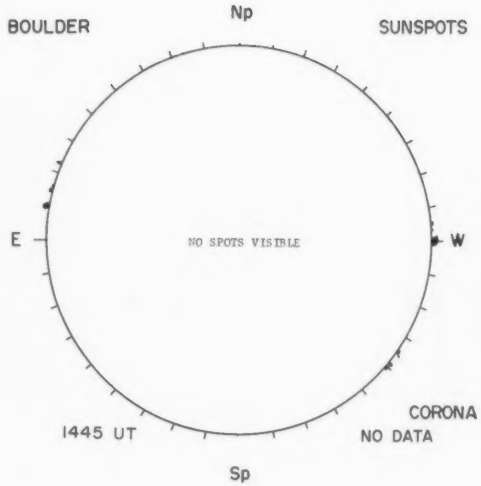
Levels
± 5
± 10
± 20
± 40
± 80

15.72 - 17.09 UT

RAMEY AFB



Hα BOULDER



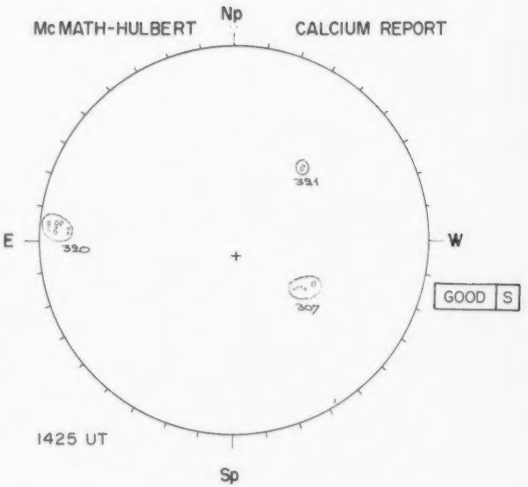
SUNSPOTS

CORONA

NO DATA

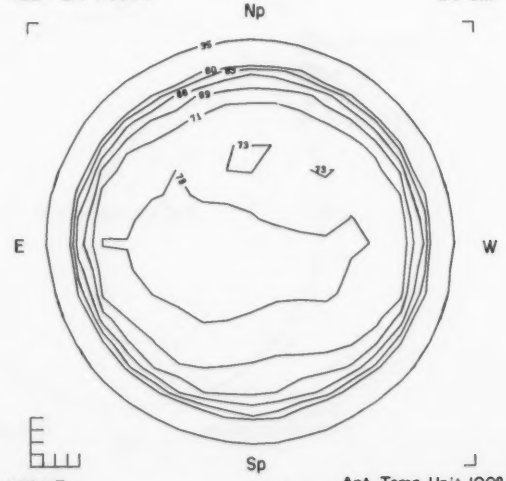
McMATH-HULBERT

CALCIUM REPORT



GOOD | S

NELC LA POSTA 2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

Ant. Temp. Unit 100°K

JULY 12, 1976 (P = 2.35, B_0 = 4.08, L_0 = 121.06)

LOCKHEED

Np

X-RAY (2-14 keV)
OSO-8

E

NO SOURCES > D

W

DETECTABLE (D)
D x 20
D x 500
HIGHLY VARIABLE

1015 UT

Sp

T(10^6K)

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

Np

FE XV
284 A

LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

E

NO DATA

W

Sp

E

W

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 12.7
DELTAX = 9.4

E

W

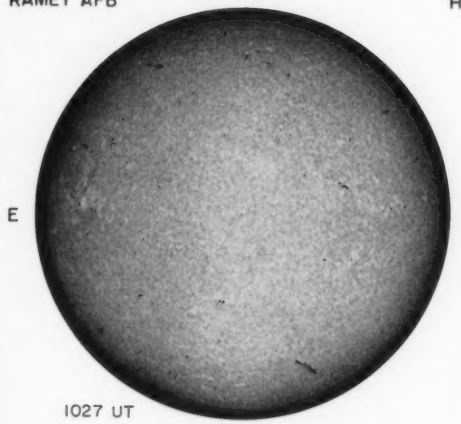
Levels
± 5
± 10
± 20
± 40
± 80

16.38 - 17.82 UT

Sp

12

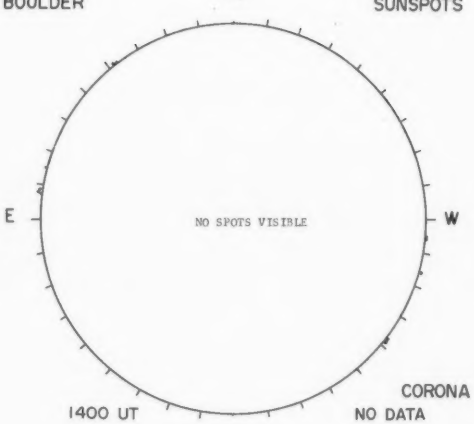
RAMEY AFB



1027 UT

Hα

BOULDER



1400 UT

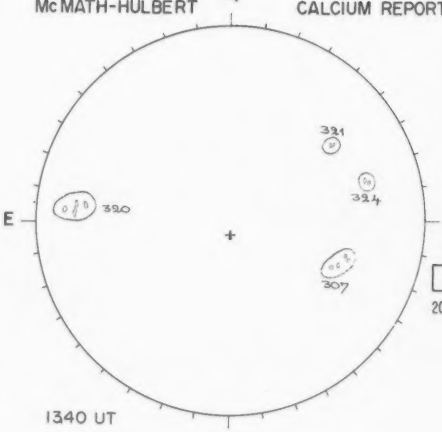
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

CALCIUM REPORT



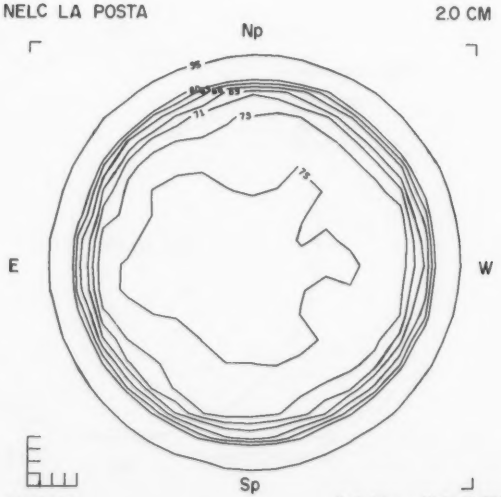
1340 UT

FAIR | S

20-0600 - 2.5

NELC LA POSTA

2.0 CM

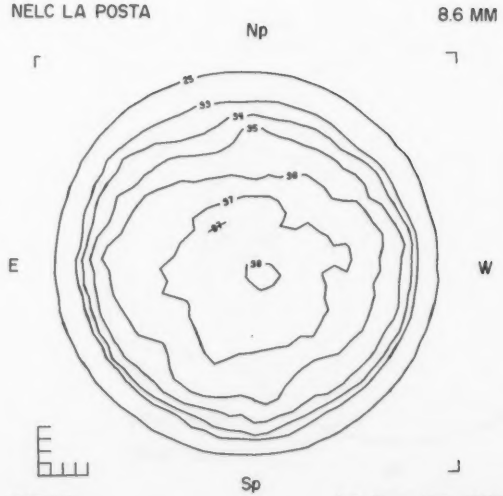


2022 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



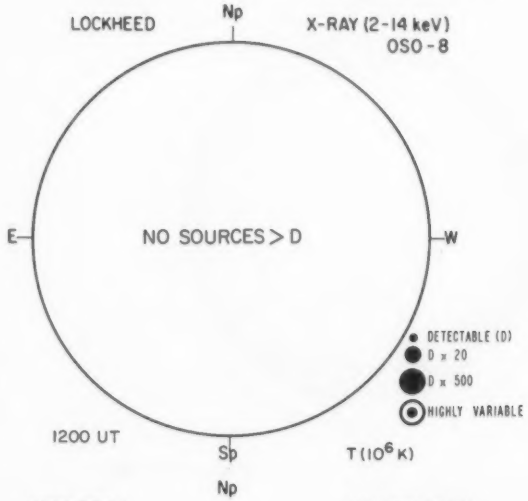
1847 UT

Ant. Temp. Unit 100°K

JULY 13, 1976 (P = 2.79, B_o = 4.18, L_o = 107.83)

LOCKHEED

X-RAY (2-14 keV)
OSO-8

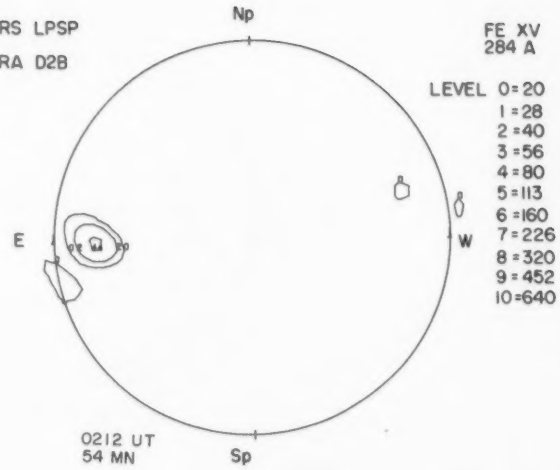


KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

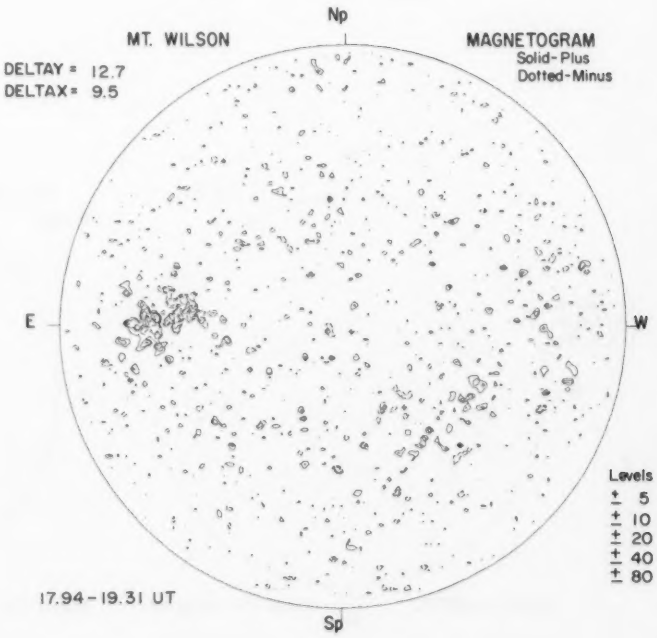
FE XV
284 A



MT. WILSON

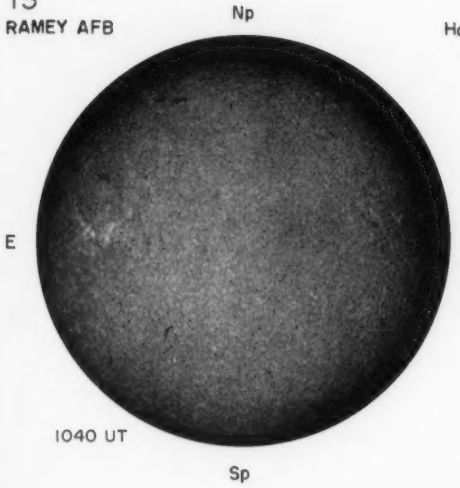
DELTAY = 12.7
DELTAX = 9.5

MAGNETOGRAM
Solid - Plus
Dotted - Minus

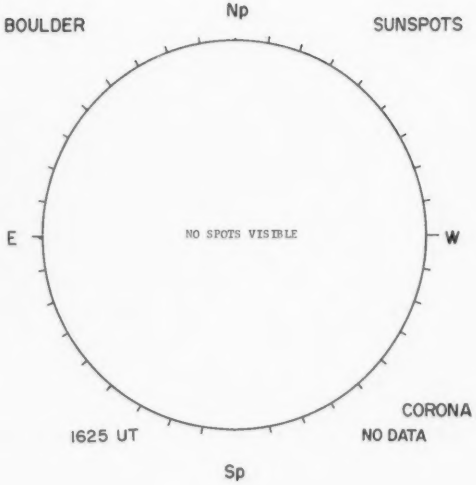


13

RAMEY AFB



BOULDER



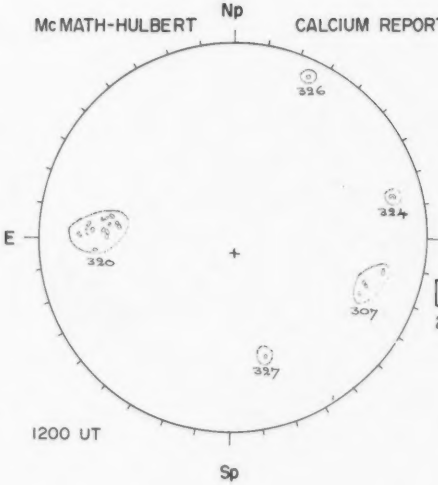
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

CALCIUM REPORT

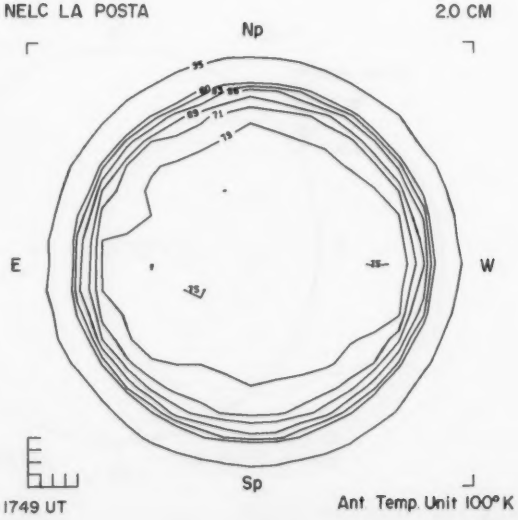


GOOD | S

20-0800-2.5

NELC LA POSTA

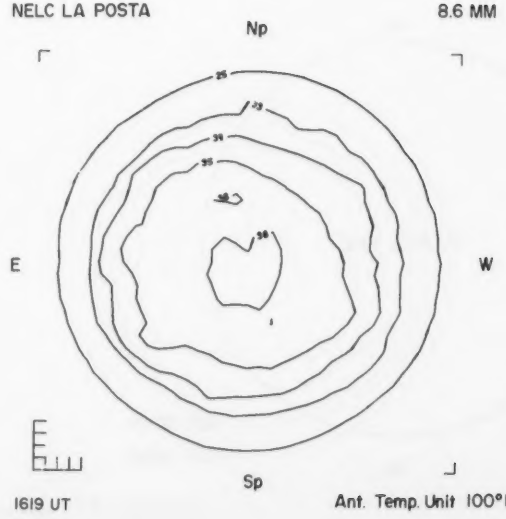
2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



Ant. Temp. Unit 100°K

JULY 14, 1976 (P = 3.24, B_0 = 4.28, L_0 = 94.60)

LOCKHEED

Np

X-RAY (2-14 keV)
OSO-8

E — NO SOURCES > D — W

DETECTABLE (D)
D x 20
D x 500
HIGHLY VARIABLE

1145 UT

Sp

T (10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

Sp

CNRS LPSP
AURA D2B

Np

FE XV
284 A

LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

E — NO DATA — W

Sp

Np

MT. WILSON

DELTAY = 12.6
DELTAX = 9.5

MAGNETOGRAM
Solid - Plus
Dotted - Minus

E W

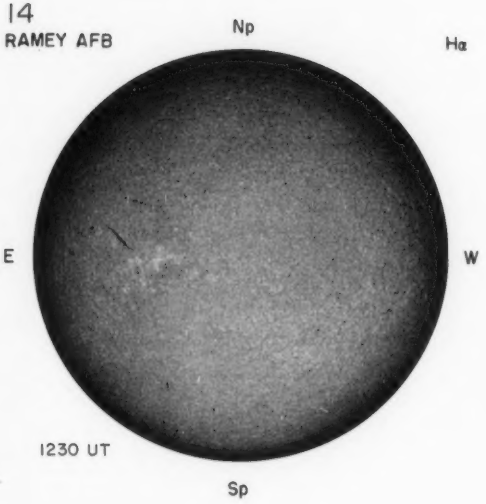
Levels
± 5
± 10
± 20
± 40
± 80

16.81 - 18.17 UT

Sp

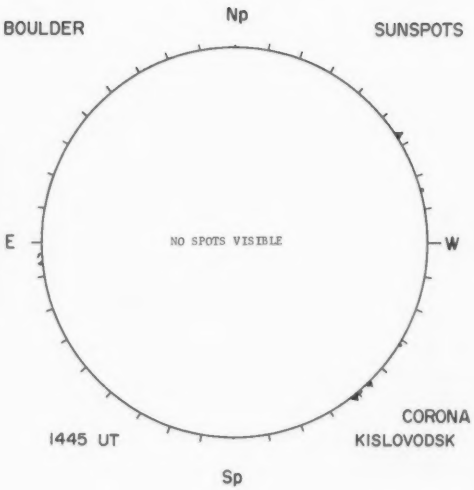
14

RAMEY AFB



Hα

BOULDER



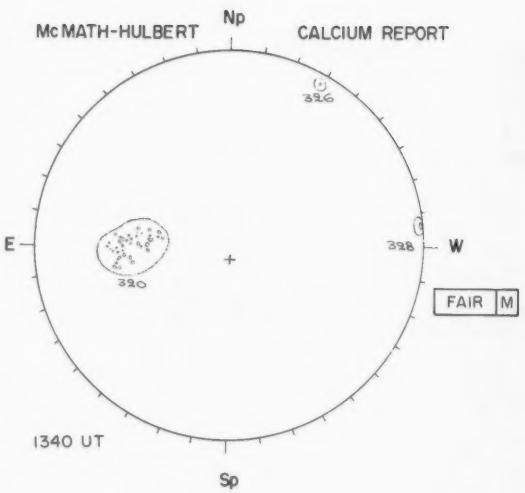
SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT

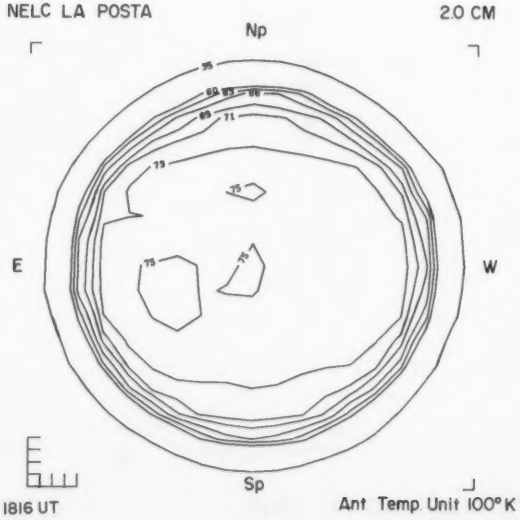
CALCIUM REPORT



FAIR M

NELC LA POSTA

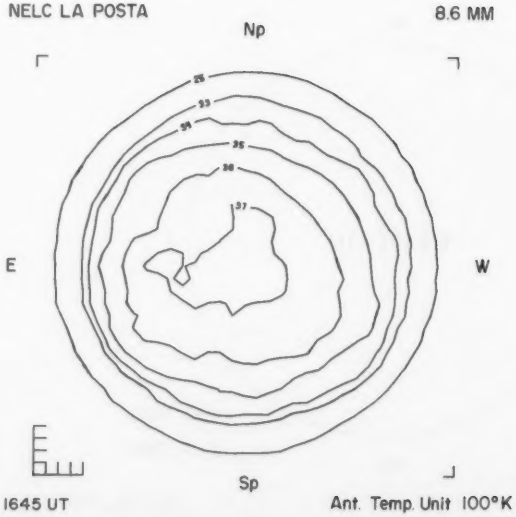
2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



Ant. Temp. Unit 100°K

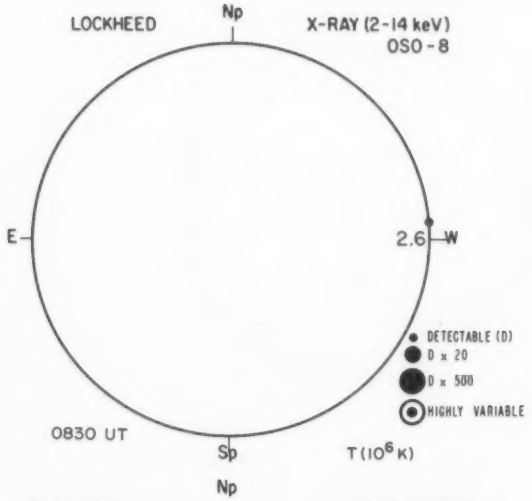
53

Jul 76

JULY 15, 1976 (P = 3.69, B_o = 4.38, L_o = 81.36)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



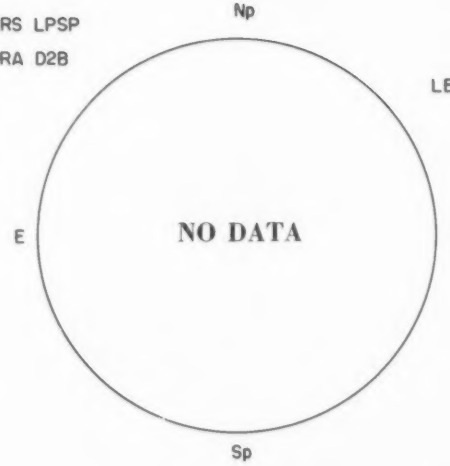
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

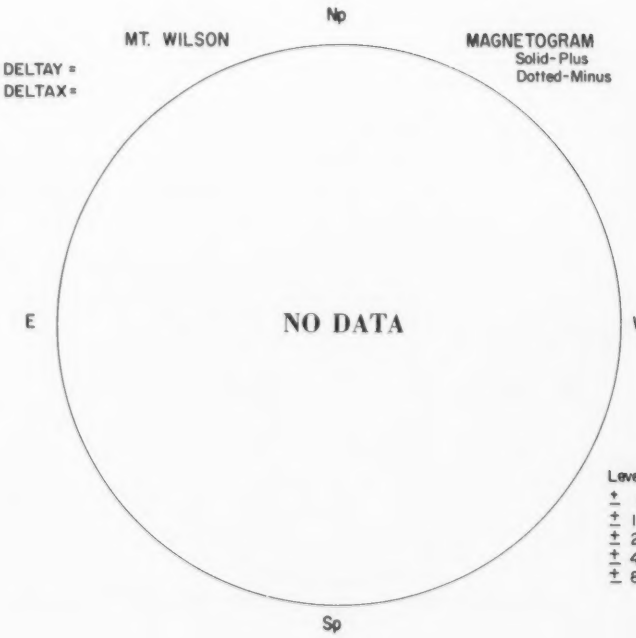
LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640



MT. WILSON

DELTAY =
DELTAX =

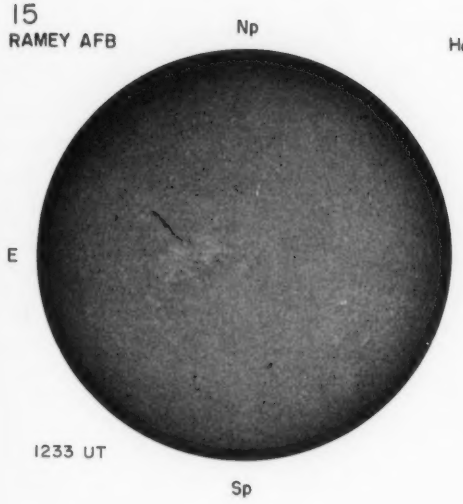
MAGNETOGRAM
Solid - Plus
Dotted - Minus



Levels
± 5
± 10
± 20
± 40
± 80

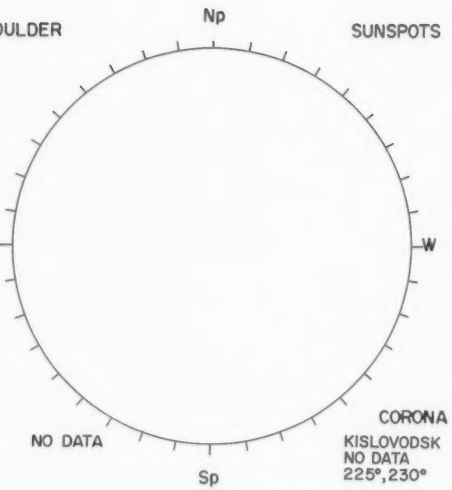
15

RAMEY AFB



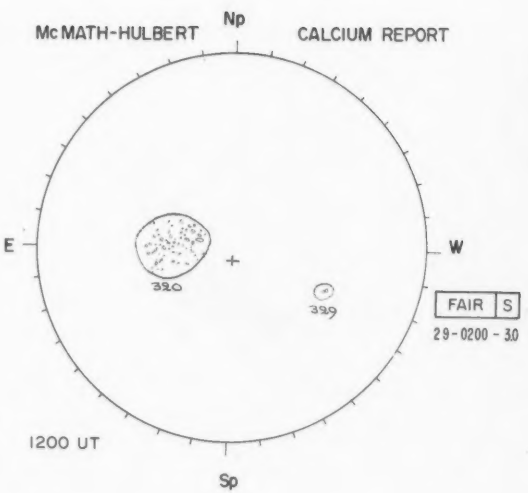
1233 UT

Hα BOULDER



NO DATA

SUNSPOTS



1200 UT

McMATH-HULBERT CALCIUM REPORT

FAIR | S

29-0200-30

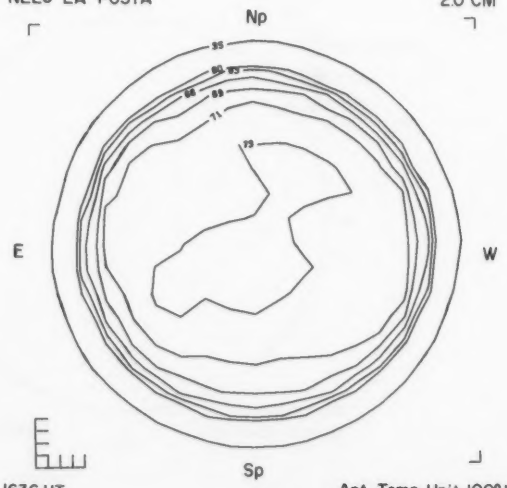
CORONA

KISLOVODSK

NO DATA

225°,230°

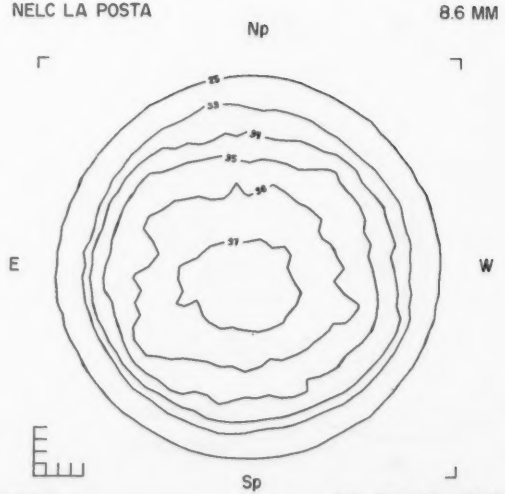
NELC LA POSTA 2.0 CM



1636 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



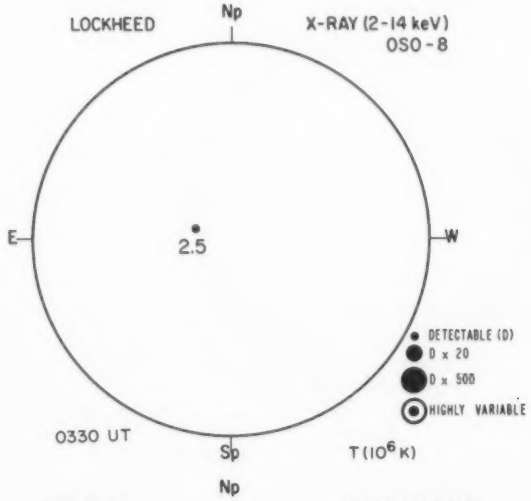
1756 UT

Ant. Temp. Unit 100°K

55
Jul 76

JULY 16, 1976 (P = 4.13, B_o = 4.47, L_o = 68.13)

LOCKHEED
X-RAY (2-14 keV)
OSO-8



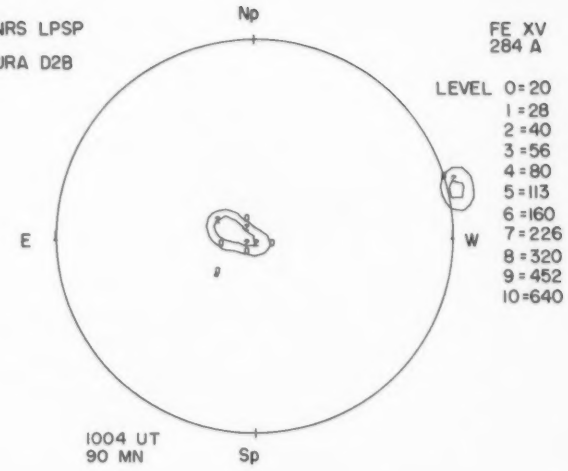
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

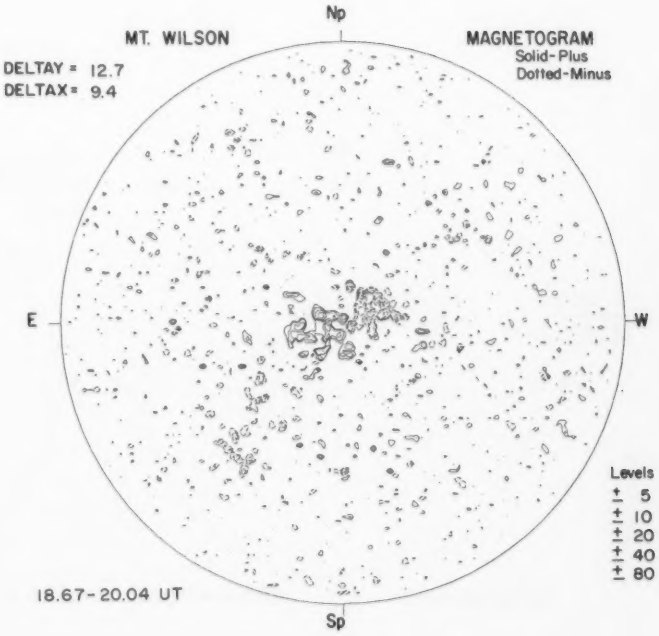
LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640



MT. WILSON

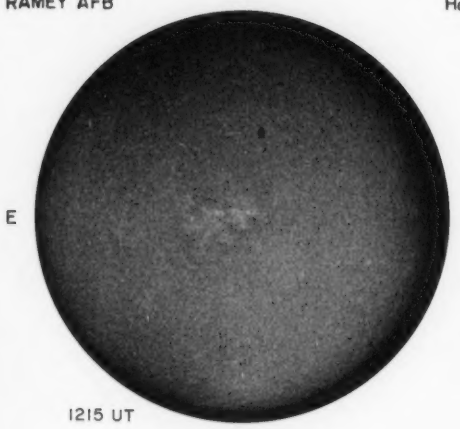
DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid - Plus
Dotted - Minus



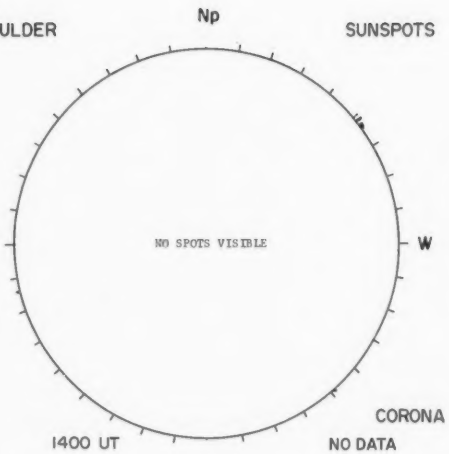
16

RAMEY AFB Hα



1215 UT

BOULDER SUNSPOTS

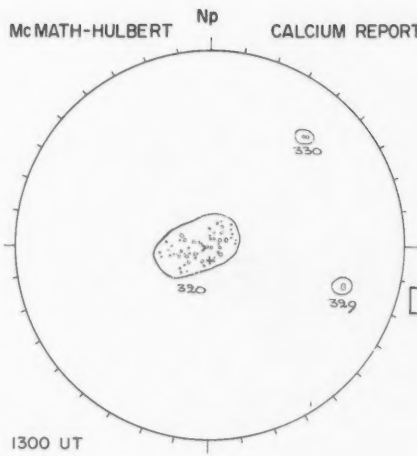


1400 UT

CORONA

NO DATA

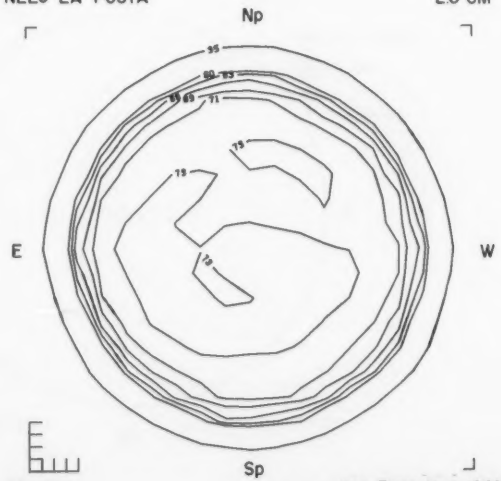
McMATH-HULBERT CALCIUM REPORT



1300 UT

FAIR M

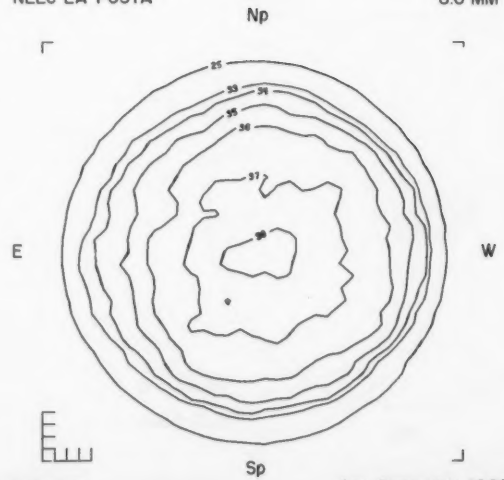
NELC LA POSTA 2.0 CM



2202 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

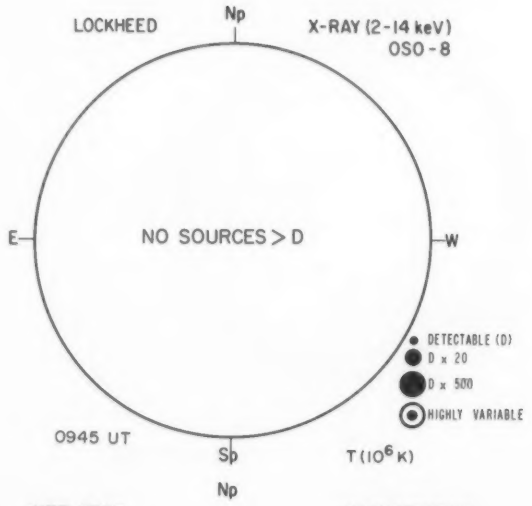


2027 UT

Ant. Temp. Unit 100°K

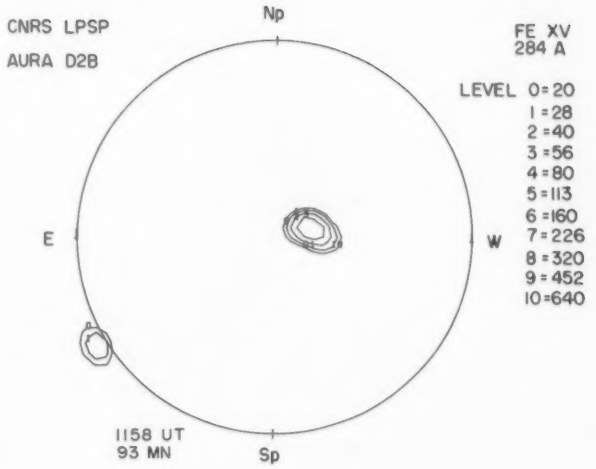
57
Jul 76

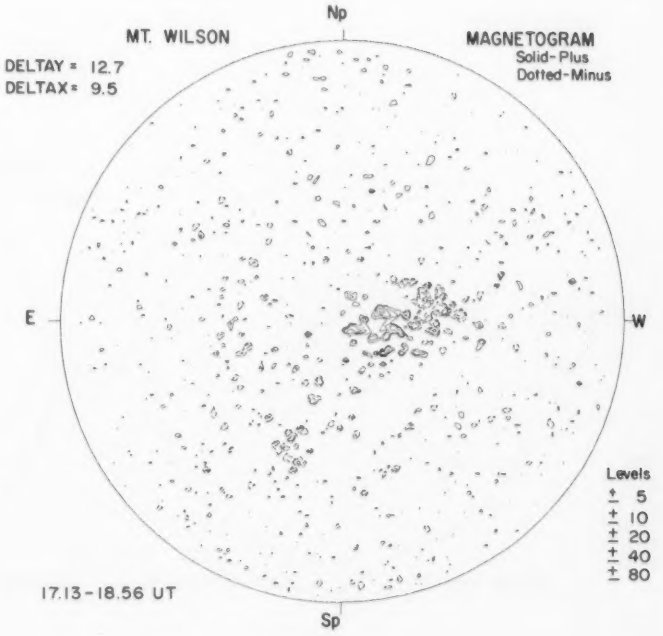
JULY 17, 1976 (P = 4.57, B_o = 4.57, L_o = 54.90)



KITT PEAK

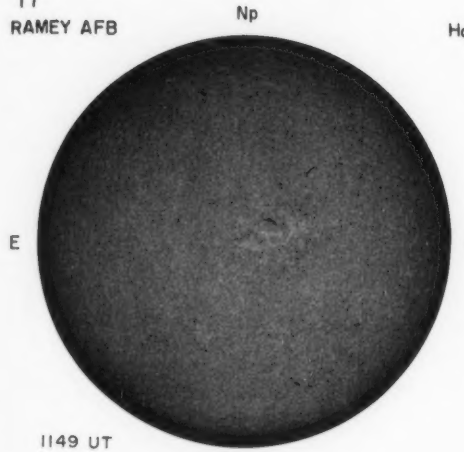
MAGNETOGRAM
Bright - Plus
Dark - Minus





17

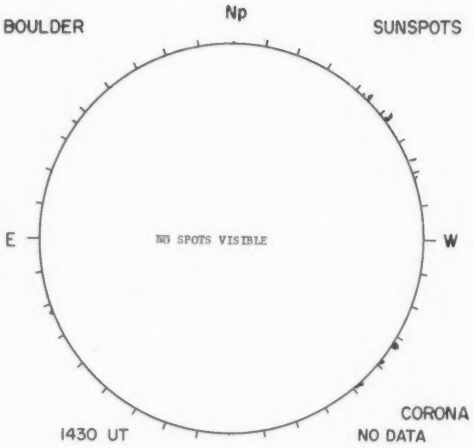
RAMEY AFB



1149 UT

Hα

BOULDER



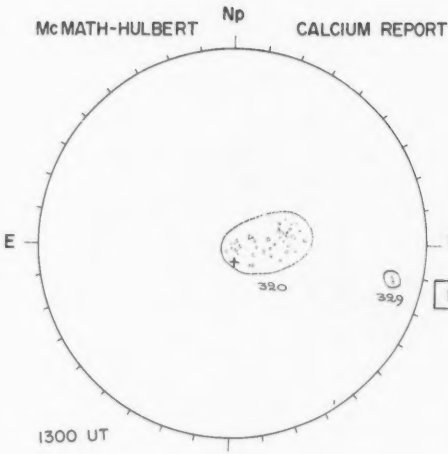
1430 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



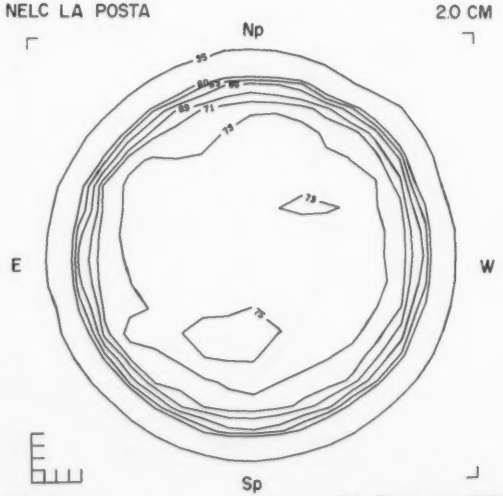
1300 UT

CALCIUM REPORT

FAIR | M

NELC LA POSTA

2.0 CM

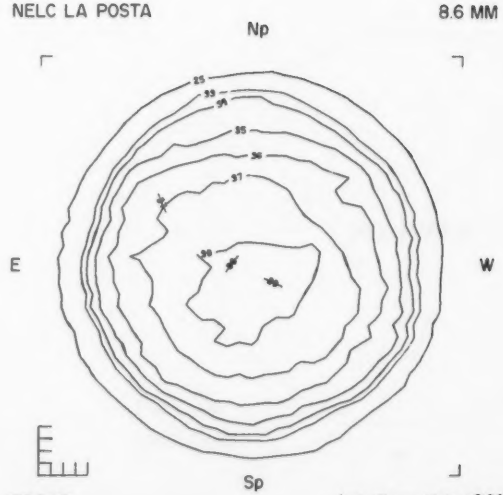


1929 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



1754 UT

Ant. Temp. Unit 100°K

59
Jul 76

JULY 18, 1976 (P = 5.01, B_o = 4.66, L_o = 41.67)

LOCKHEED

Np

X-RAY (2-14 keV)
OSO-8

E — NO SOURCES > D — W

DETECTABLE (D)
D x 20
D x 500
HIGHLY VARIABLE

0945 UT

Sp

T(10^6 K)

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

Sp

CNRS LPSP
AURA D2B

Np

FE XV
284 A

LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640

E — NO DATA — W

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 12.7
DELTAX = 9.4

E W

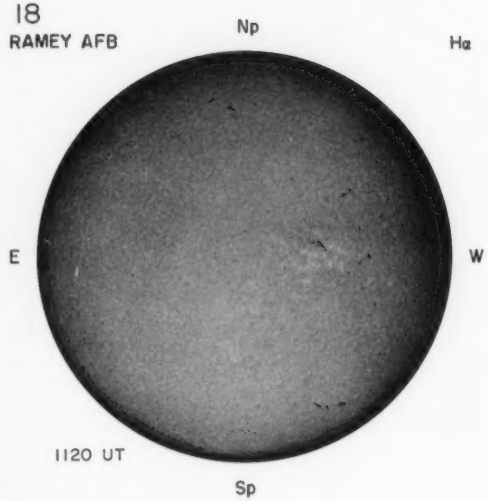
Levels
± 5
± 10
± 20
± 40
± 80

15.96-17.52 UT

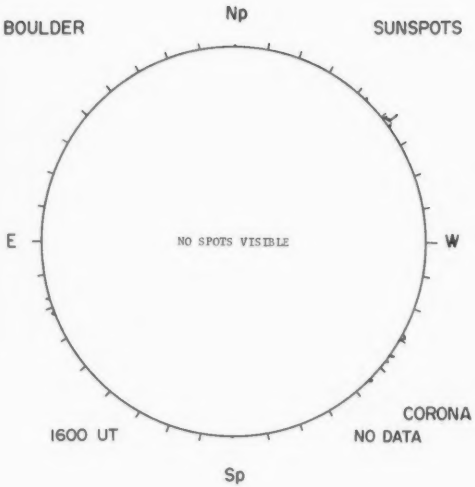
Sp

18

RAMEY AFB Hα

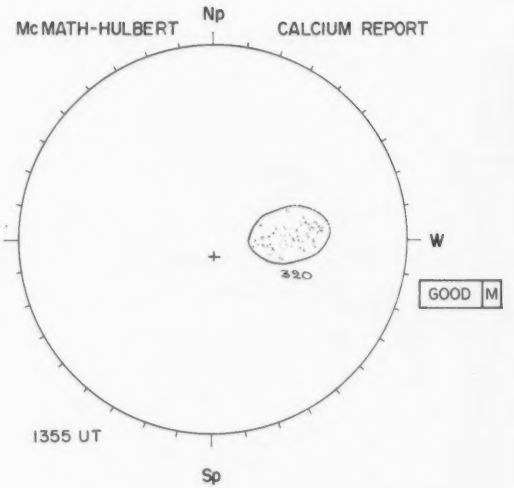


BOULDER SUNSPOTS



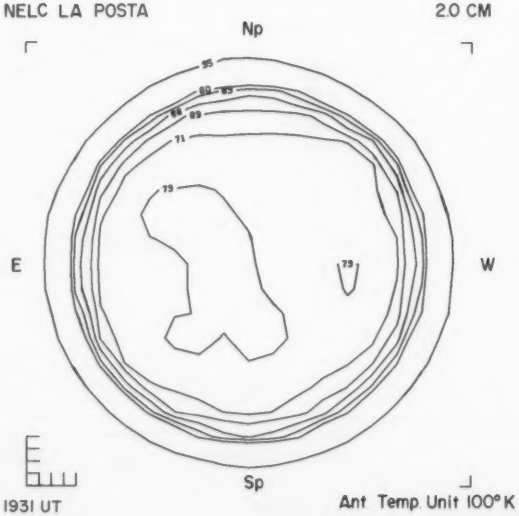
CORONA
NO DATA

McMATH-HULBERT CALCIUM REPORT



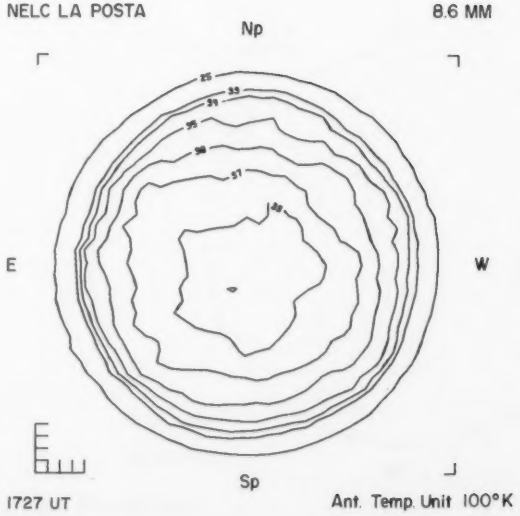
GOOD | M

NELC LA POSTA 2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM

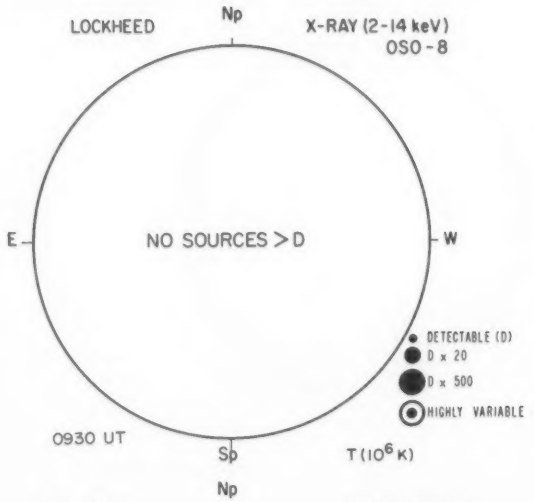


Ant. Temp. Unit 100°K

JULY 19, 1976 (P = 5.45, B_o = 4.75, L_o = 28.44)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



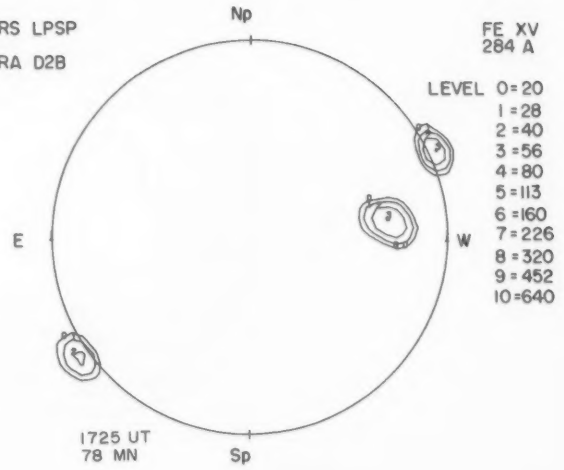
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

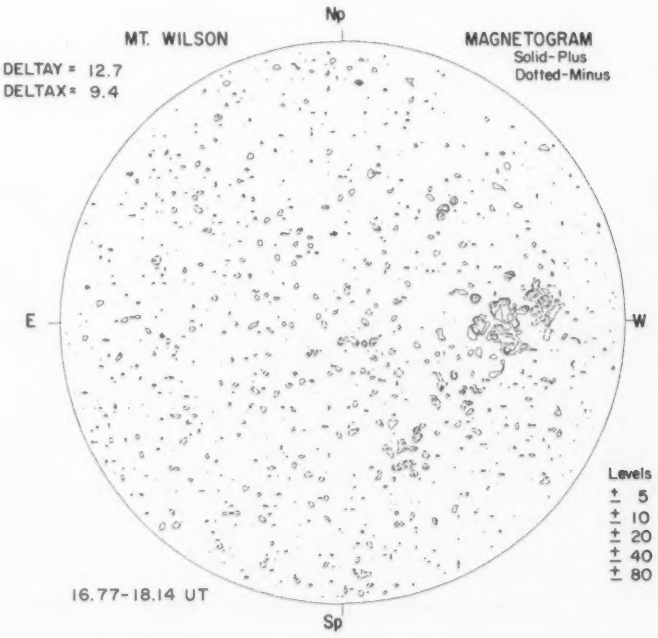
LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640



MT. WILSON

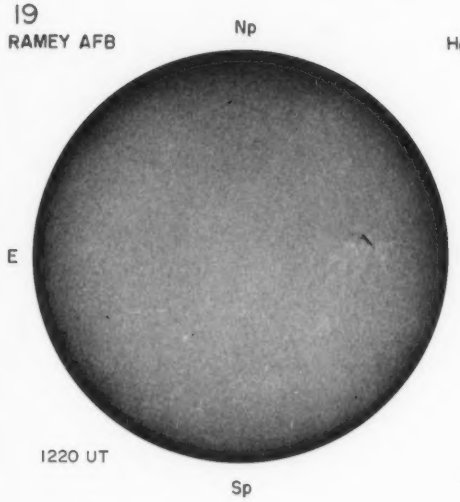
DELTAY = 12.7
DELTAX = 9.4

MAGNETOGRAM
Solid - Plus
Dotted - Minus



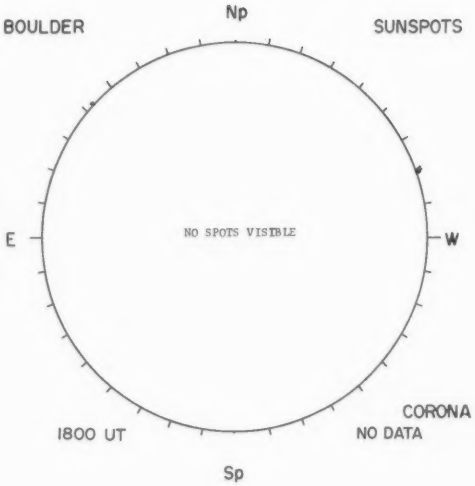
19

RAMEY AFB



Hα

BOULDER



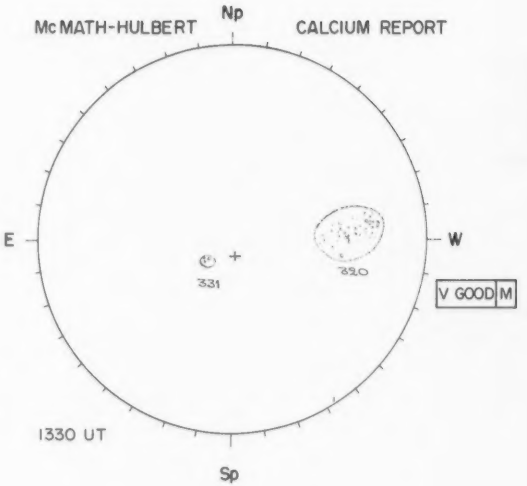
SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

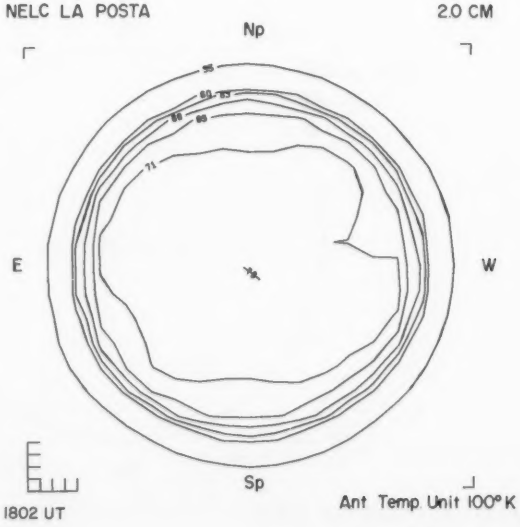
CALCIUM REPORT



V GOOD | M

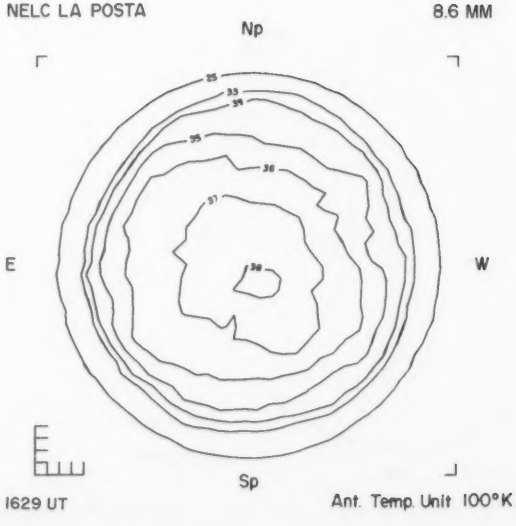
NELC LA POSTA

2.0 CM



NELC LA POSTA

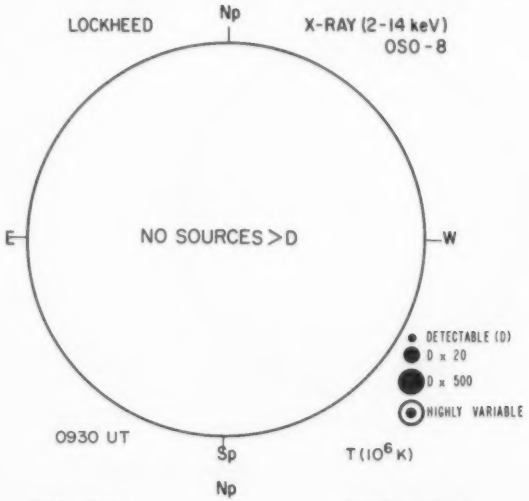
8.6 MM



JULY 20, 1976 (P = 5.88, B_o = 4.84, L_o = 15.20)

LOCKHEED

X-RAY (2-14 keV)
OSO-8

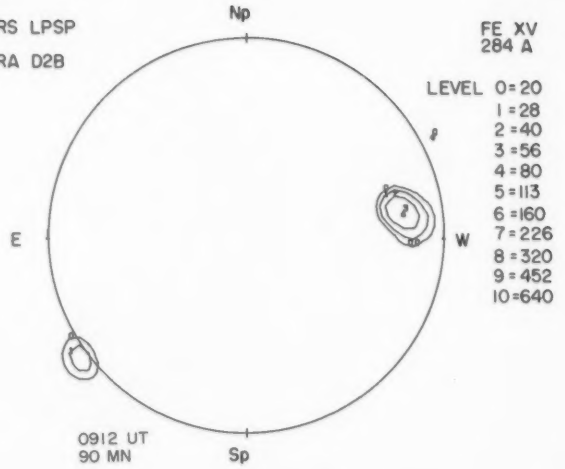


KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

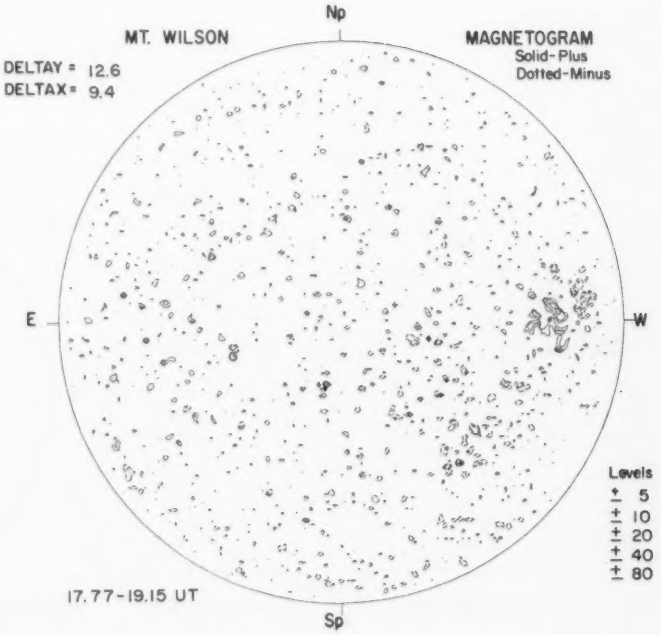
FE XV
284 A



MT. WILSON

DELTAY = 12.6
DELTAX = 9.4

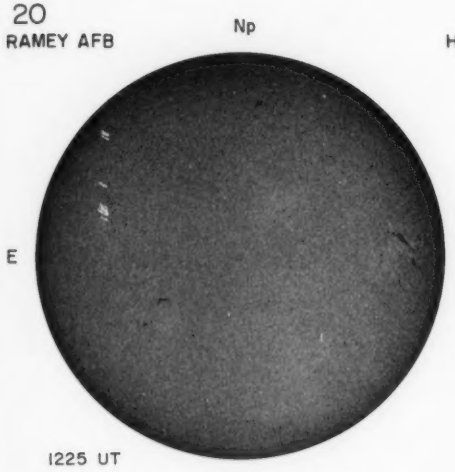
MAGNETOGRAM
Solid - Plus
Dotted - Minus



17.77 - 19.15 UT

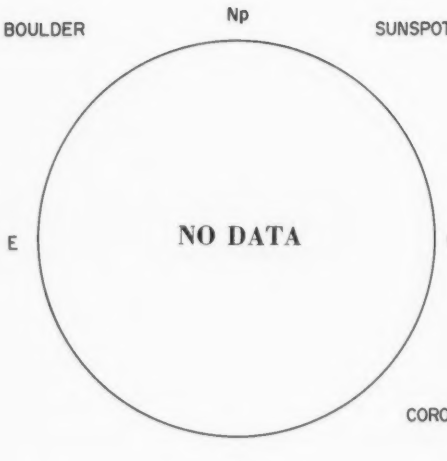
20

RAMEY AFB



1225 UT

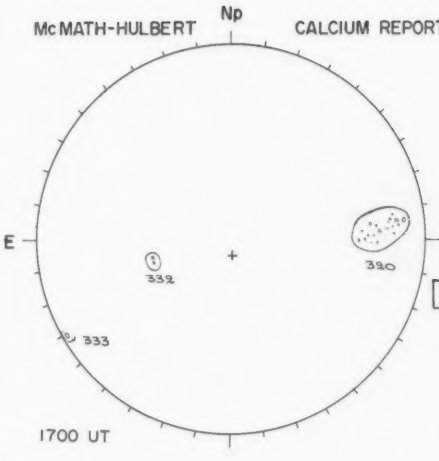
Hα BOULDER



SUNSPOTS

CORONA

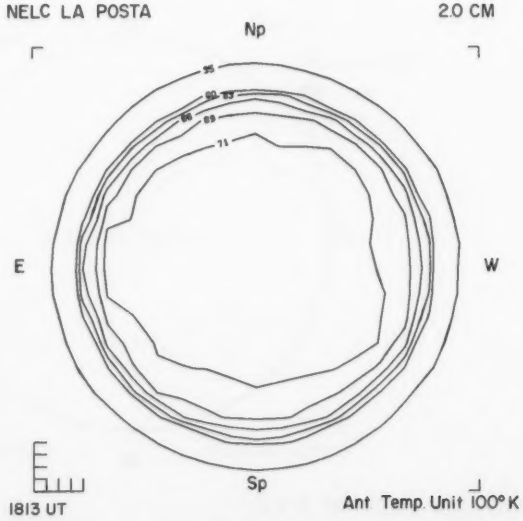
McMATH-HULBERT CALCIUM REPORT



1700 UT

POOR | M

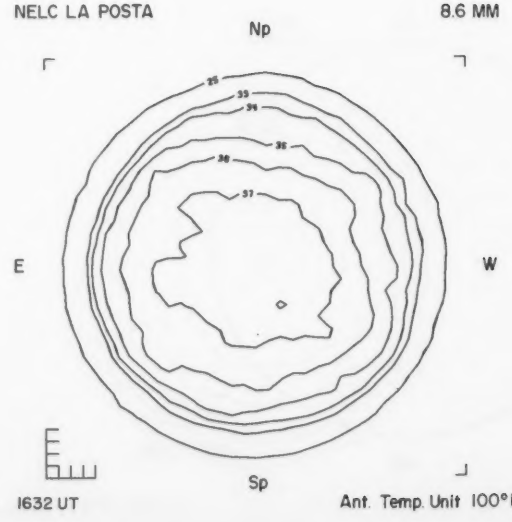
NELC LA POSTA 2.0 CM



1813 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



1632 UT

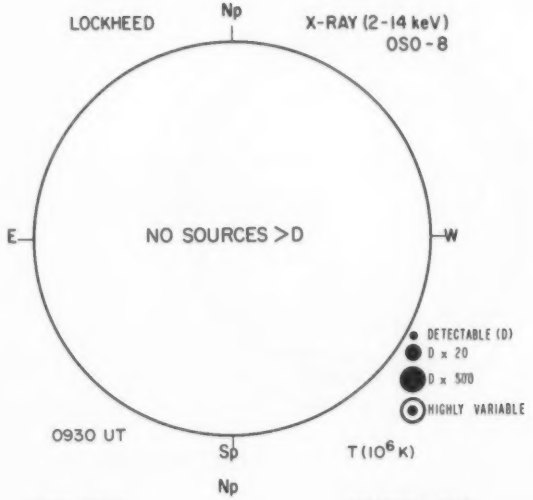
Ant. Temp. Unit 100°K

65 Jul 76

JULY 21, 1976 (P = 6.31, B_o = 4.93, L_o = 1.97)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



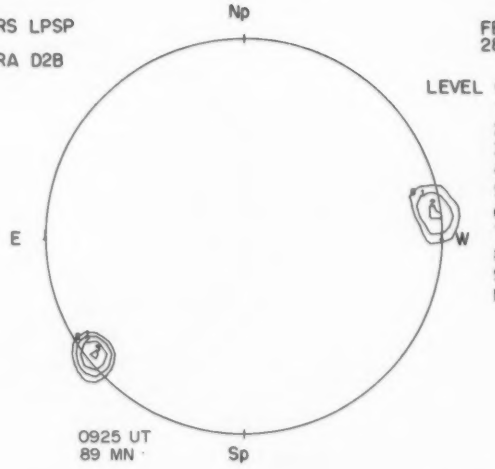
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

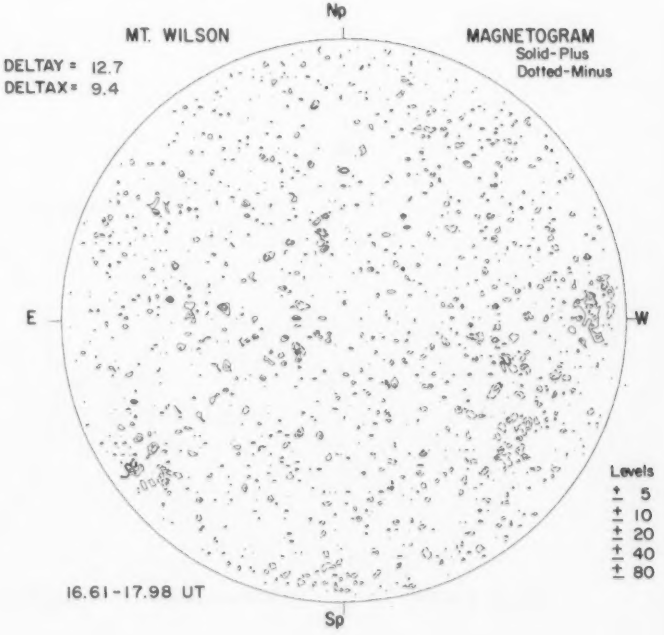
LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640



MT. WILSON

DELTAY = 12.7
DELTAX = 9.4

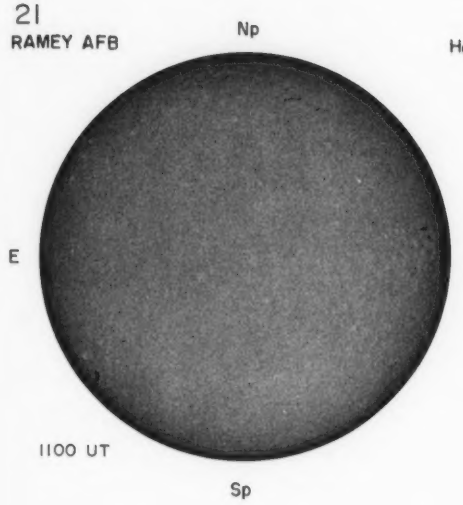
MAGNETOGRAM
Solid - Plus
Dotted - Minus



16.61 - 17.98 UT

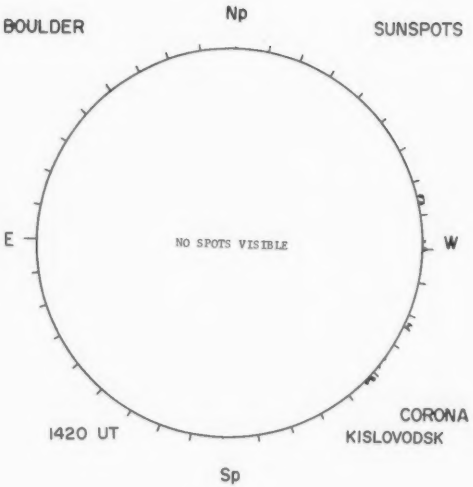
21

RAMEY AFB



1100 UT

Hα BOULDER



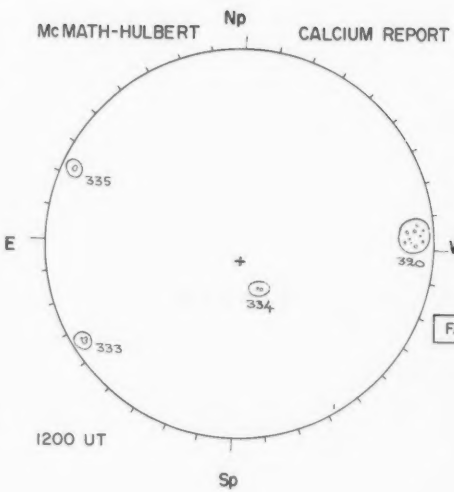
1420 UT

SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT



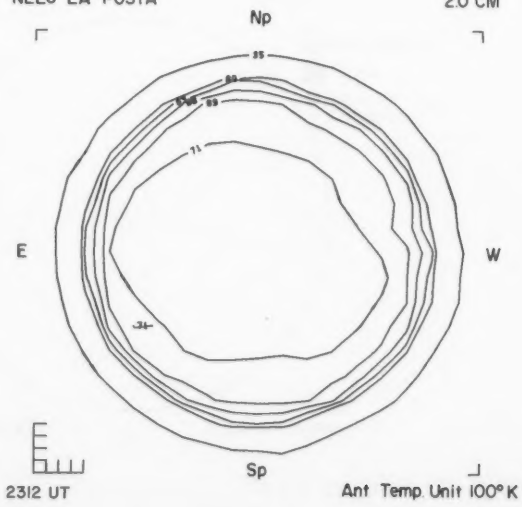
1200 UT

CALCIUM REPORT

FAIR | M

NELC LA POSTA

2.0 CM

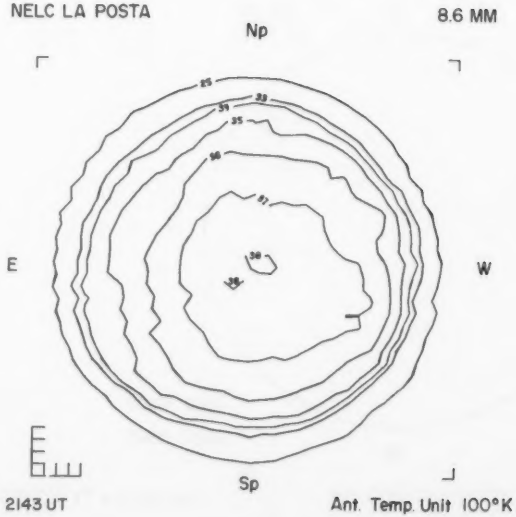


2312 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



2143 UT

Ant. Temp. Unit 100°K

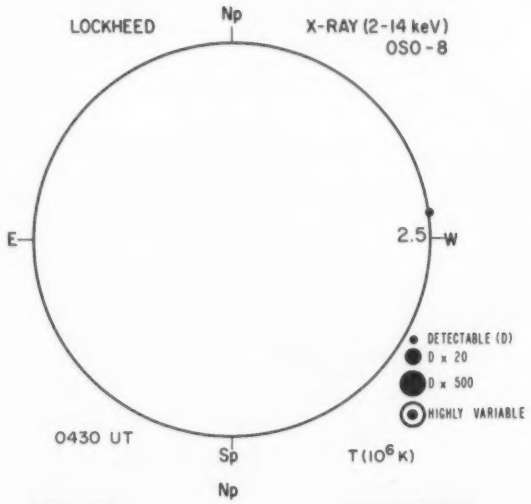
67

Jul 76

JULY 22, 1976 (P = 6.74, B_o = 5.02, L_o = 348.74)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



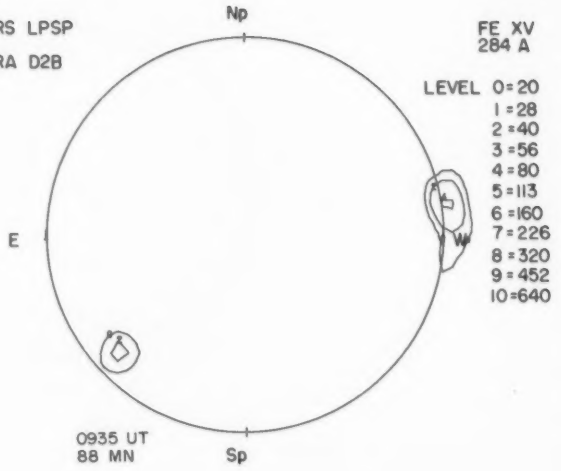
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

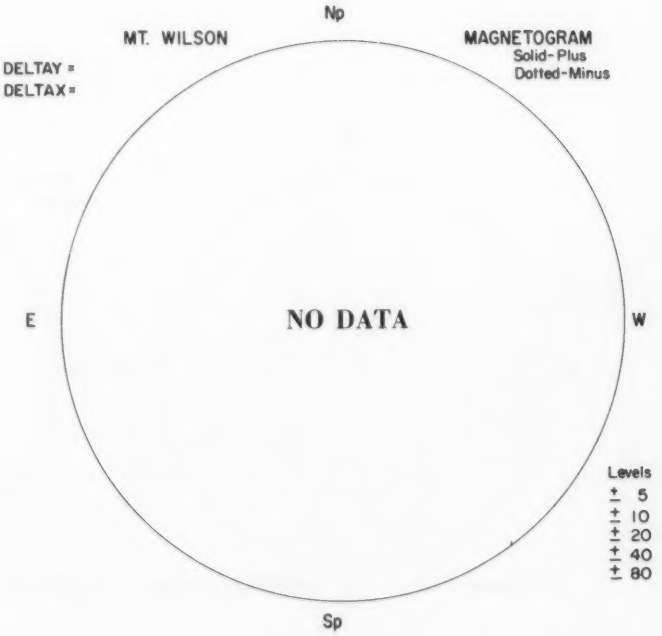
LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640



MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid - Plus
Dotted - Minus



22

RAMEY AFB

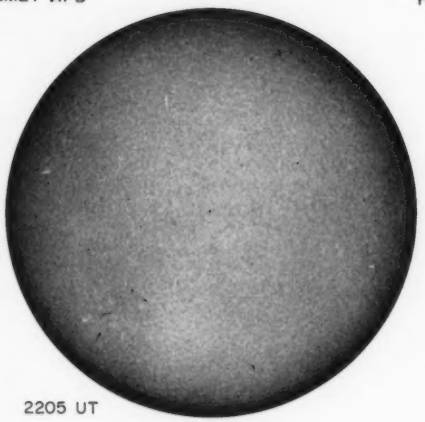
Np

E W

Sp

2205 UT

Hα



BOULDER

Np

E W

NO SPOTS VISIBLE

Sp

1330 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

Np

E W

335

333

390

Sp

1230 UT

CALCIUM REPORT

GOOD M

NELC LA POSTA

Np

E W

Sp

----UT

2.0 CM

NO DATA

WEATHER

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

E W

Sp

1747 UT

8.6 MM

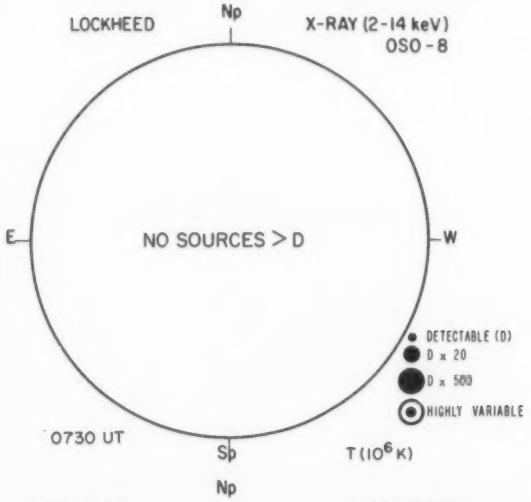
NO DATA

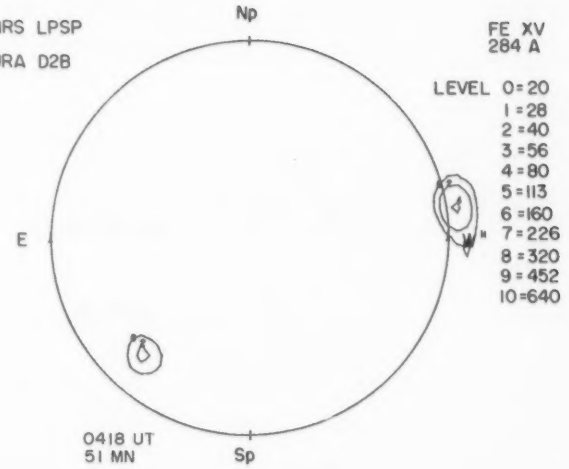
CALIBRATION

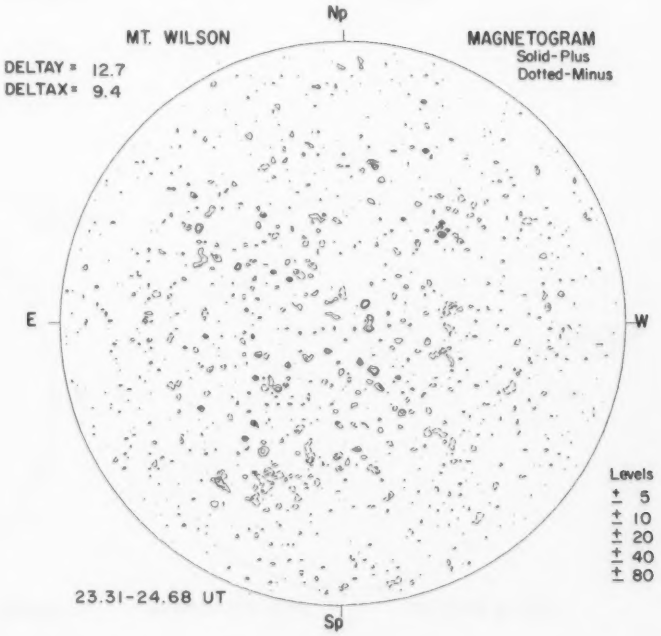
Ant. Temp. Unit 100°K

69
Jul 76

JULY 23, 1976 (P = 7.17, B_0 = 5.10, L_0 = 335.51)

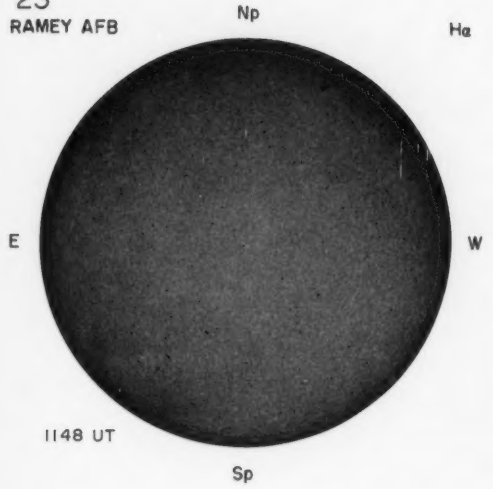




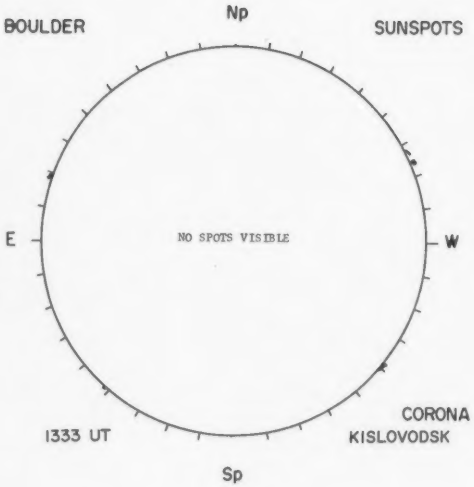


23

RAMEY AFB



Hα BOULDER

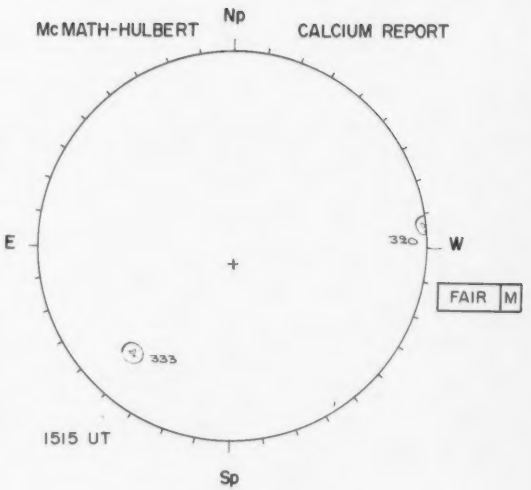


SUNSPOTS

CORONA

KISLOVODSK

McMATH-HULBERT

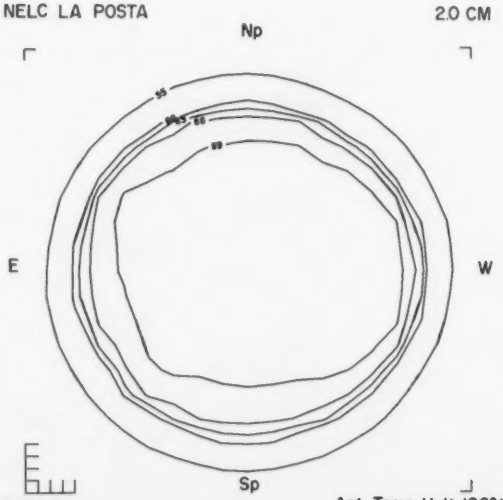


CALCIUM REPORT

FAIR | M

NELC LA POSTA

2.0 CM



Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM

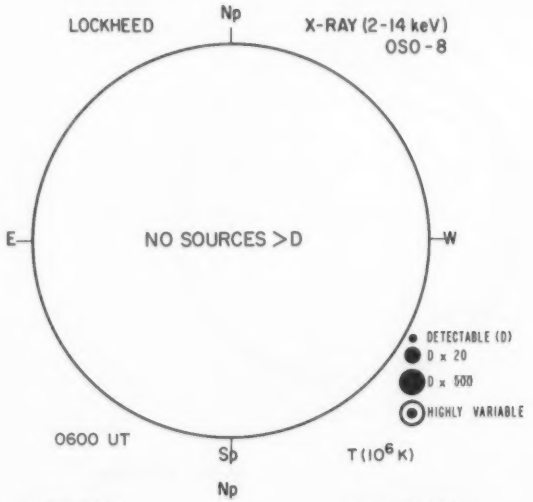
Ant. Temp. Unit 100°K

71
Jul 76

JULY 24, 1976 (P = 7.60, B_o = 5.19, L_o = 322.29)

LOCKHEED

X-RAY (2-14 keV)
OSO-8

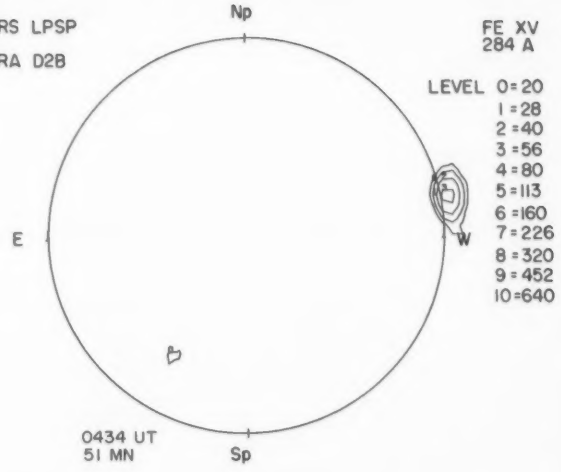


KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

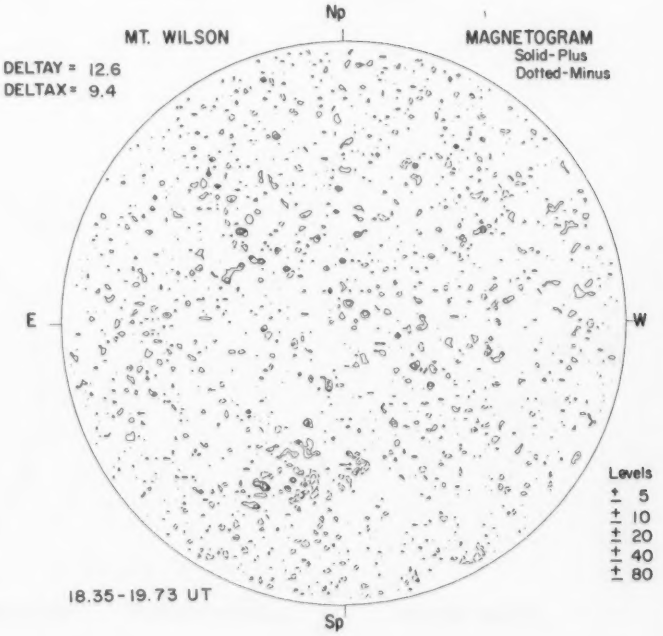
FE XV
284 A



MT. WILSON

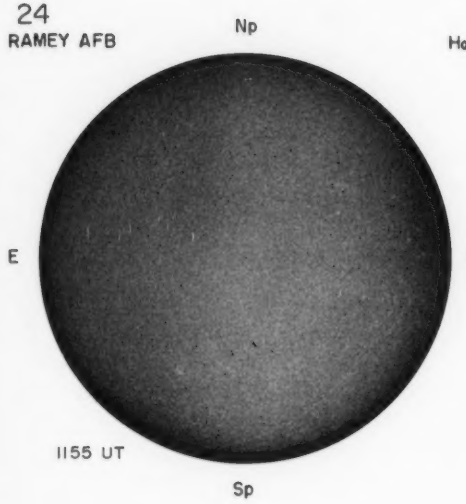
DELTAY = 12.6
DELTAX = 9.4

MAGNETOGRAM
Solid - Plus
Dotted - Minus



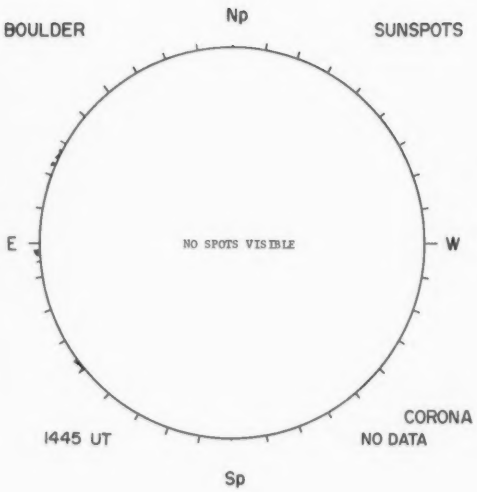
24

RAMEY AFB



1155 UT

Hα BOULDER



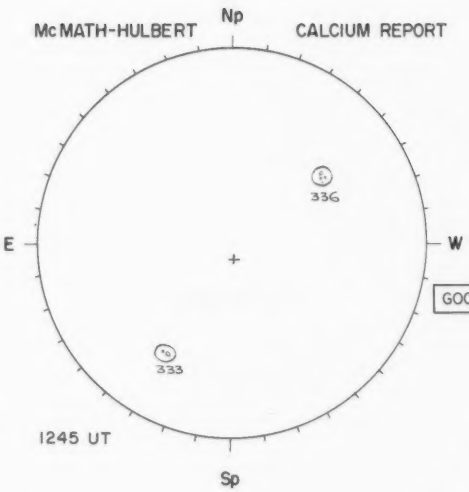
1445 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

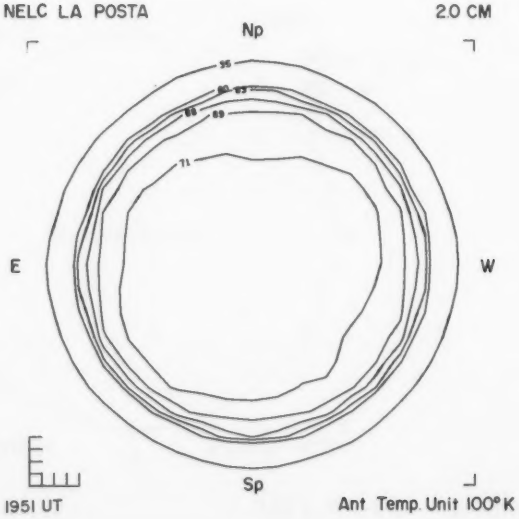


1245 UT

CALCIUM REPORT

GOOD | M

NELC LA POSTA

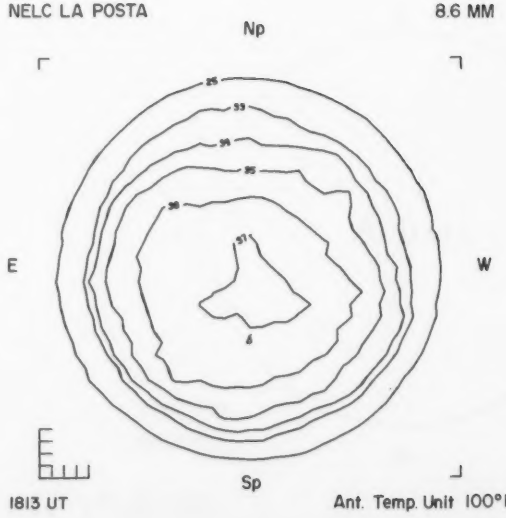


2.0 CM

1951 UT

Ant. Temp. Unit 100°K

NELC LA POSTA



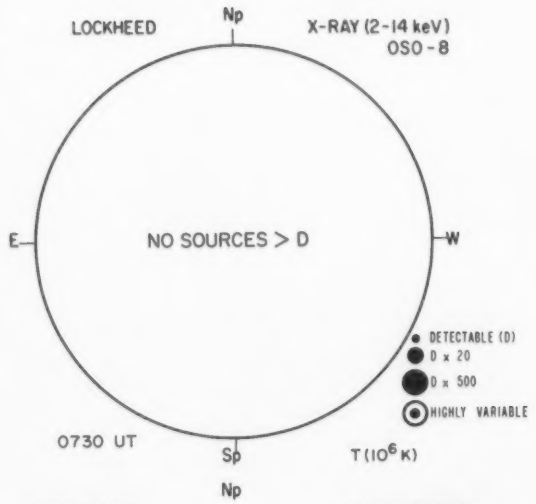
8.6 MM

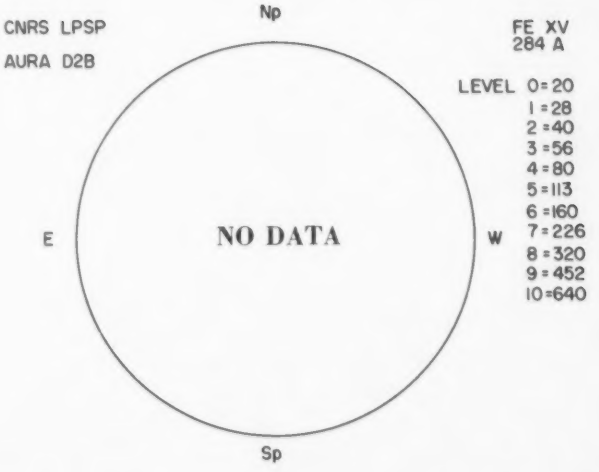
1813 UT

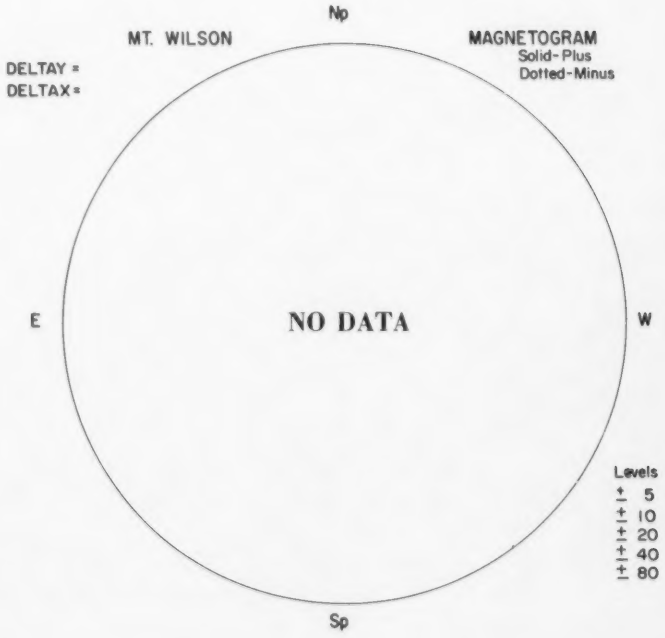
Ant. Temp. Unit 100°K

73
Jul 76

JULY 25, 1976 (P = 8.02, B_o = 5.27, L_o = 309.06)

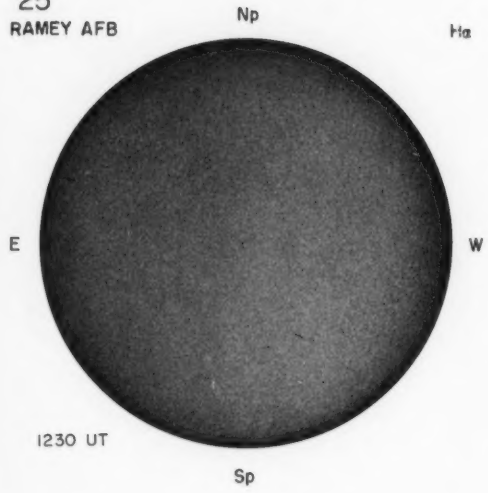




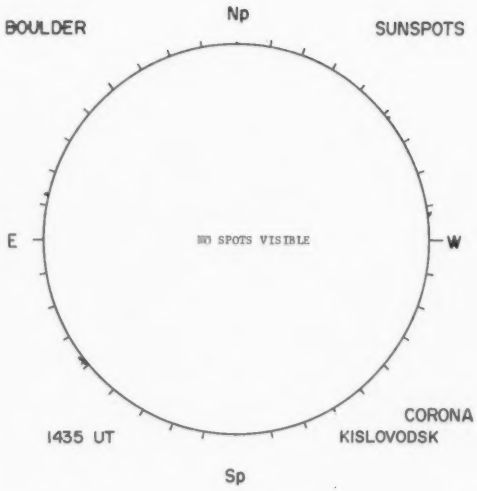


25

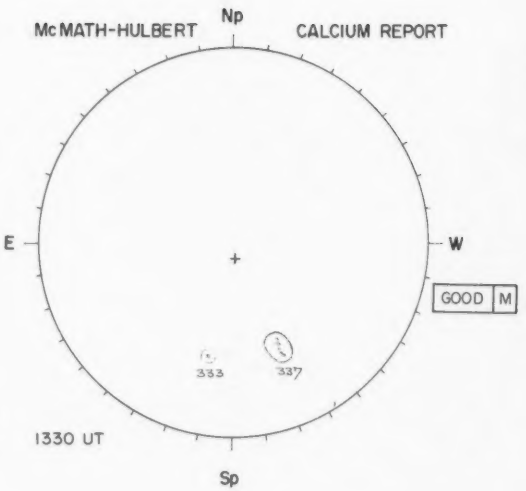
RAMEY AFB



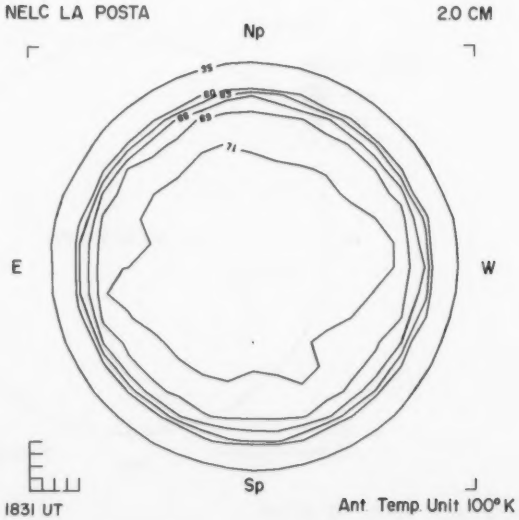
BOULDER



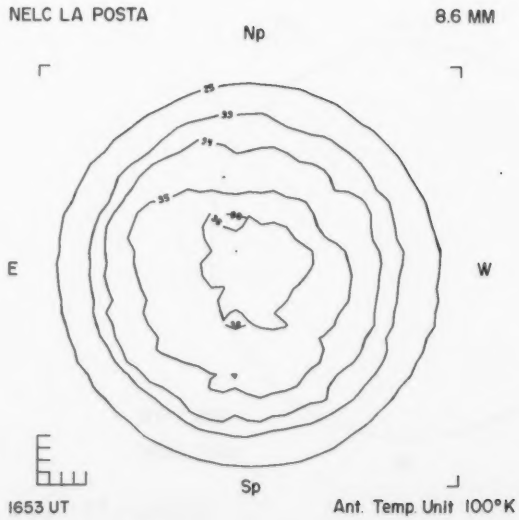
McMATH-HULBERT



NELC LA POSTA



NELC LA POSTA

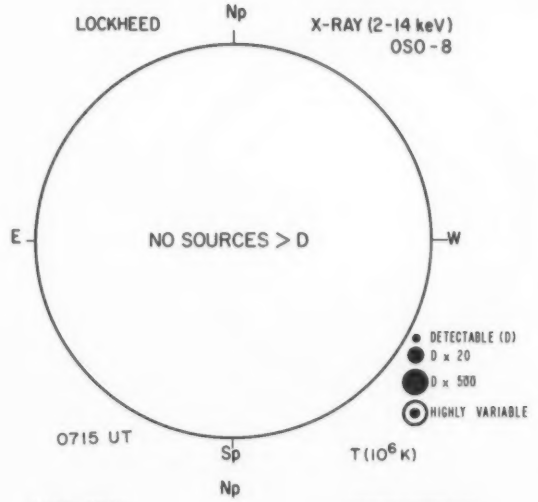


75
Jul 76

JULY 26, 1976 (P = 8.44, B_o = 5.36, L_o = 295.83)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



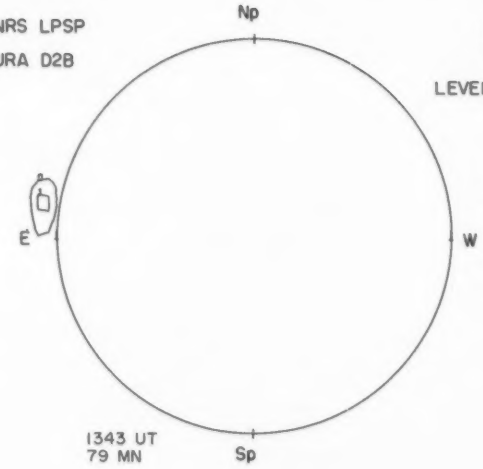
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

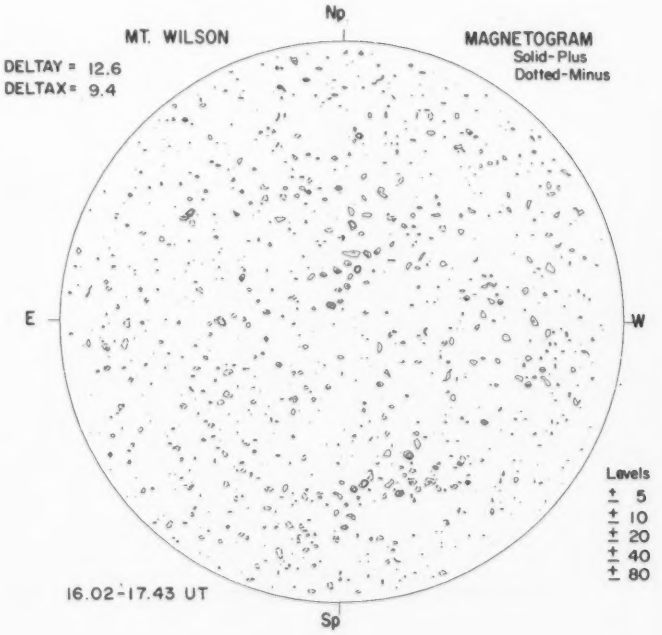
LEVEL 0=20
1=28
2=40
3=56
4=80
5=113
6=160
7=226
8=320
9=452
10=640



MT. WILSON

DELTAY = 12.6
DELTAX = 9.4

MAGNETOGRAM
Solid-Plus
Dotted-Minus



26

RAMEY AFB

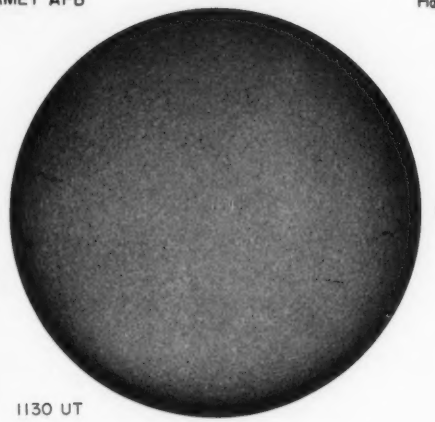
Np

E W

Sp

1130 UT

Hα



BOULDER

Np

E W

NO SPOTS VISIBLE

Sp

1830 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT

Np

339

338

E W

Sp

1215 UT

CALCIUM REPORT

FAIR D

NELC LA POSTA

Np

2.0 CM

NO DATA

E W

WEATHER

Sp

----UT

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E W

WEATHER

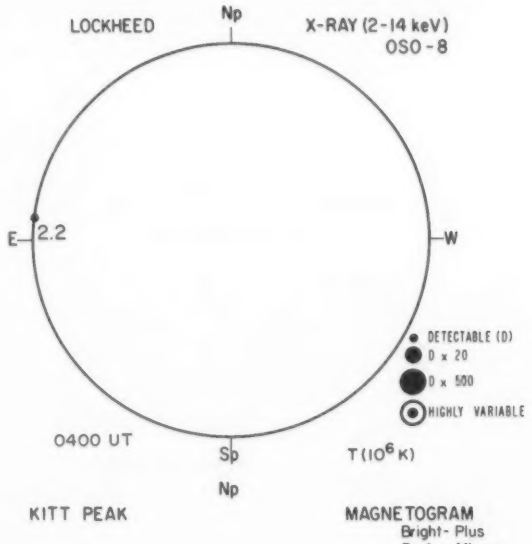
Sp

---- UT

Ant. Temp. Unit 100°K

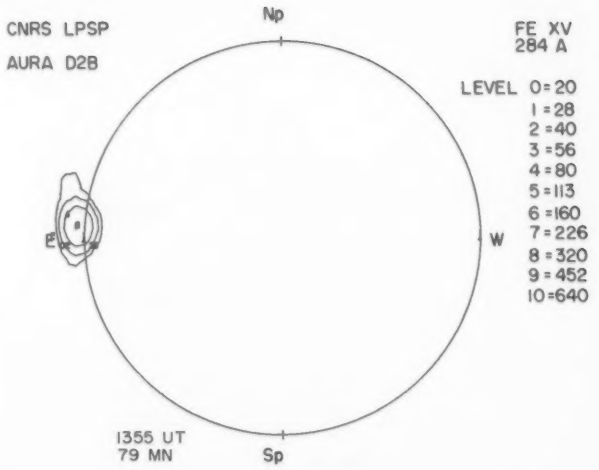
77 Jul 76

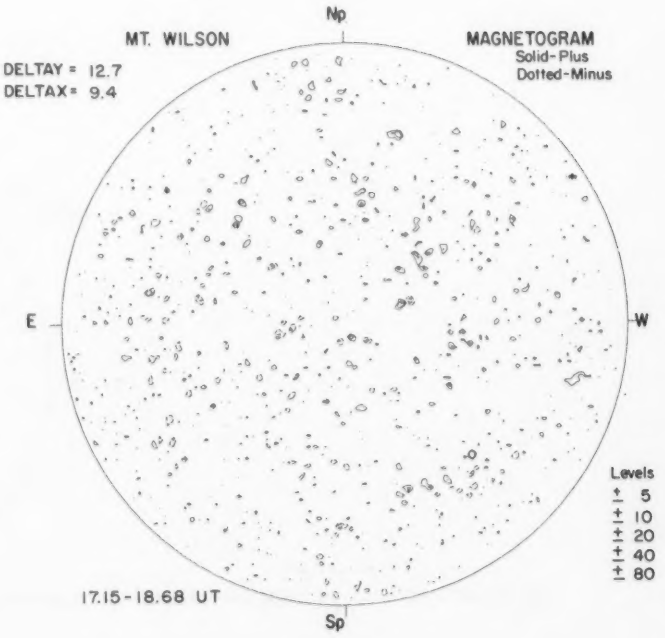
JULY 27, 1976 (P = 8.85, B_o = 5.44, L_o = 282.60)



KITT PEAK

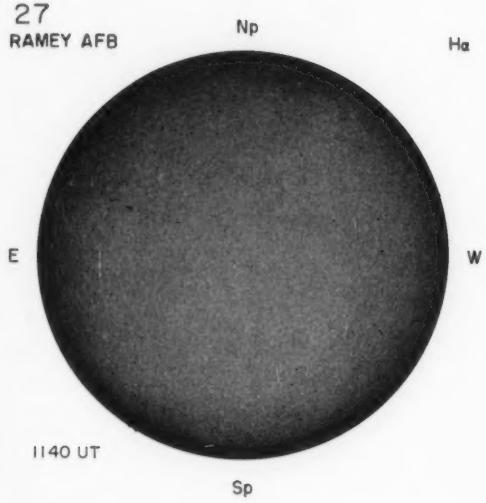
MAGNETOGRAM
Bright - Plus
Dark - Minus





27

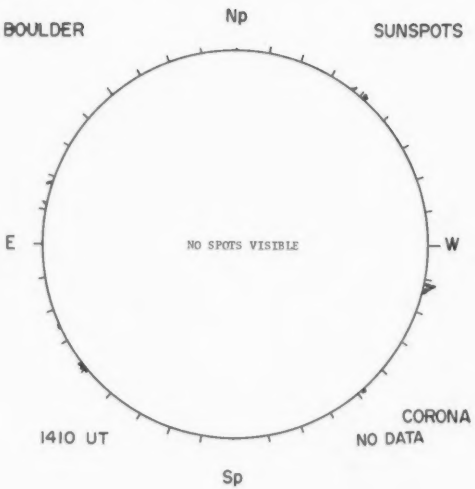
RAMEY AFB



1140 UT

Hα

BOULDER



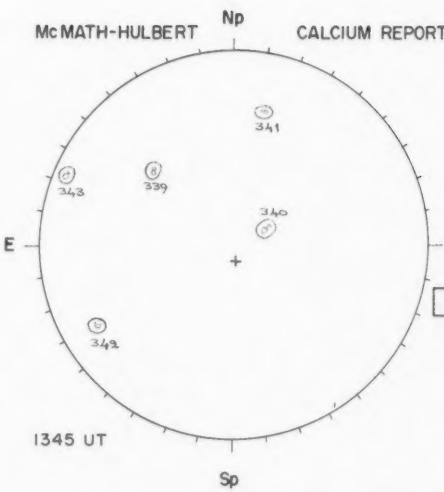
1410 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



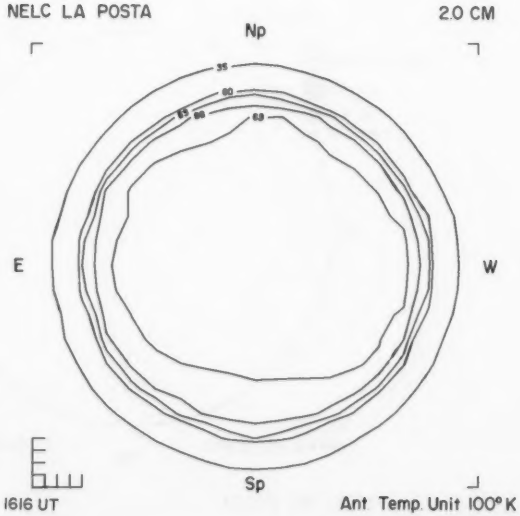
1345 UT

CALCIUM REPORT

FAIR | D

NELC LA POSTA

2.0 CM

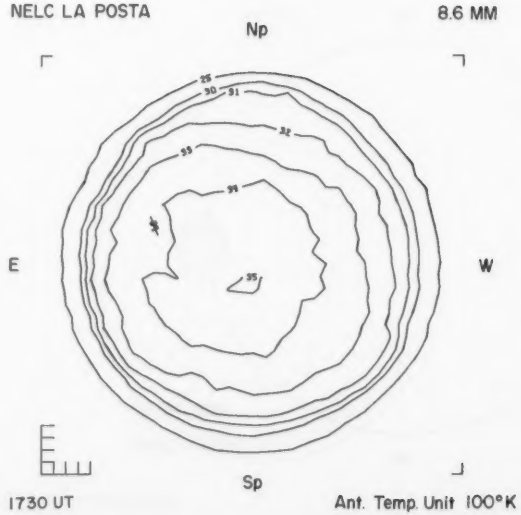


1616 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



1730 UT

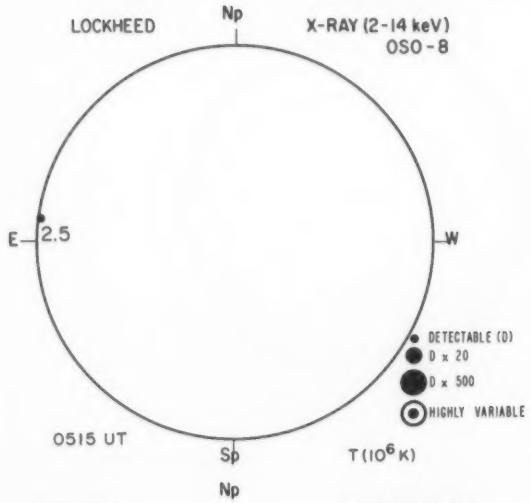
Ant. Temp. Unit 100°K

79 Jul 76

JULY 28, 1976 (P = 9.27, B_o = 5.52, L_o = 269.37)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



KITT PEAK

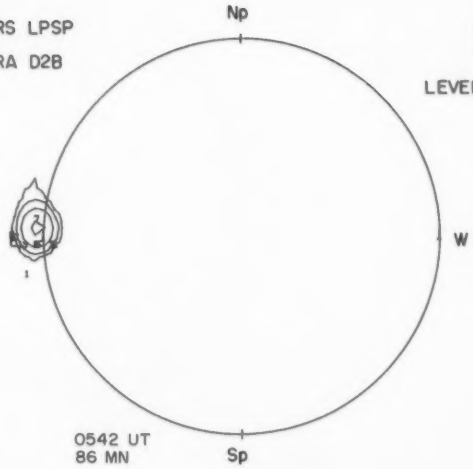
MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP

AURA D2B

FE XV
284 A

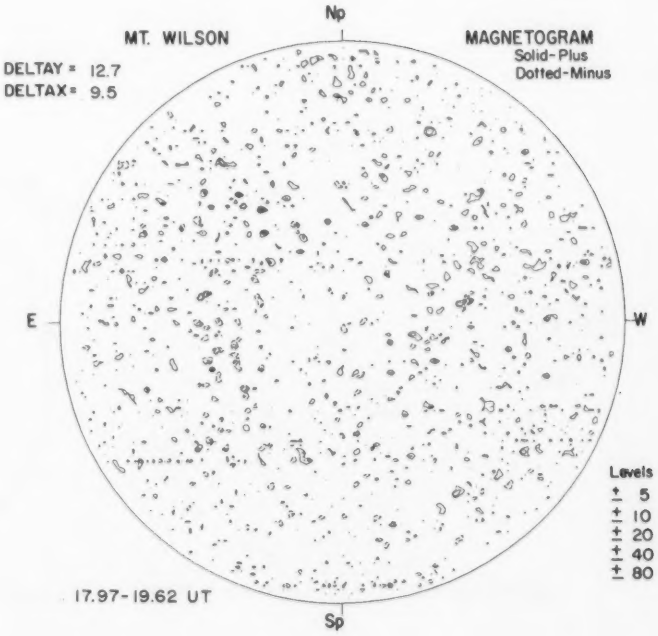
LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640



MT. WILSON

DELTAY = 12.7
DELTAX = 9.5

MAGNETOGRAM
Solid - Plus
Dotted - Minus



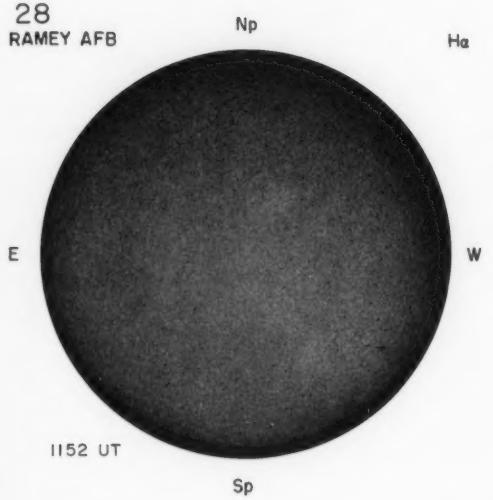
E

W

Sp

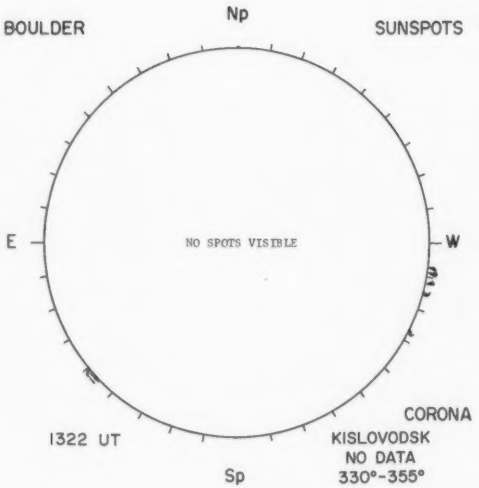
28

RAMEY AFB



1152 UT

Hα BOULDER



1322 UT

SUNSPOTS

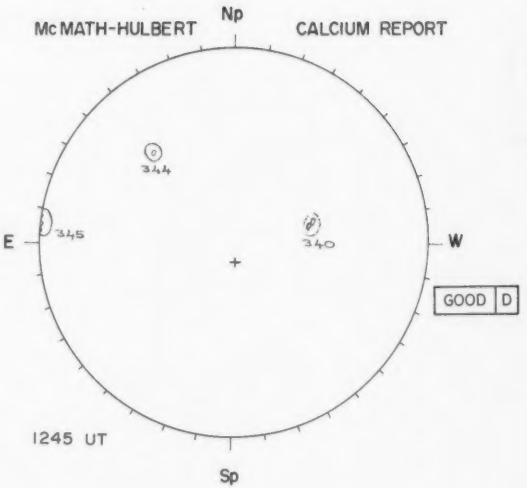
CORONA

KISLOVODSK

NO DATA

330°-355°

McMATH-HULBERT



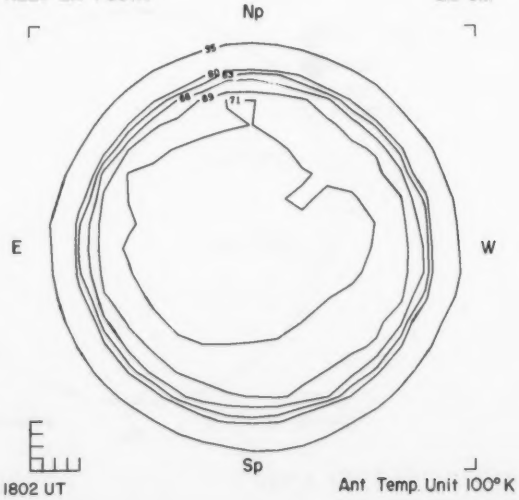
1245 UT

CALCIUM REPORT

GOOD | D

NELC LA POSTA

2.0 CM

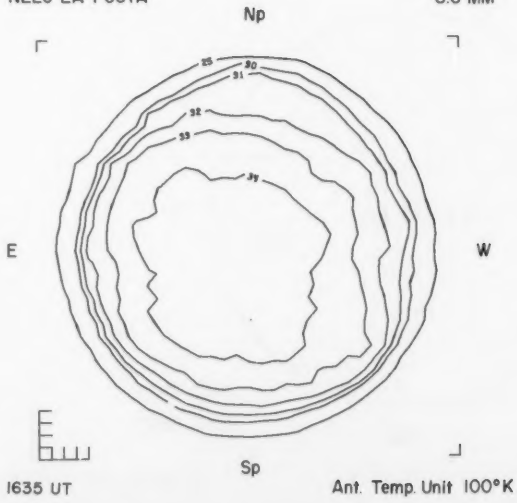


1802 UT

Ant. Temp. Unit 100°K

NELC LA POSTA

8.6 MM



1635 UT

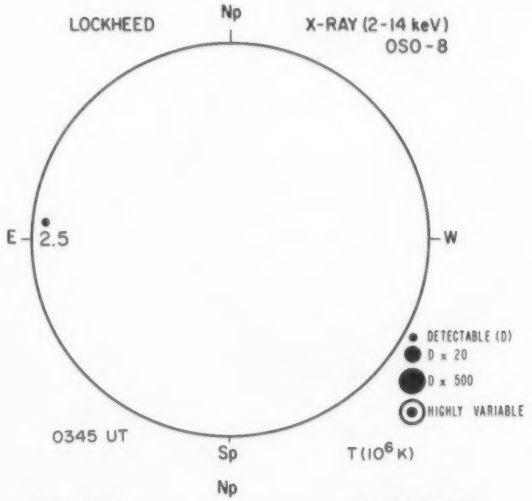
Ant. Temp. Unit 100°K

81
Jul 76

JULY 29, 1976 (P = 9.68, B_o = 5.59, L_o = 256.15)

LOCKHEED

X-RAY (2-14 keV)
OSO-8



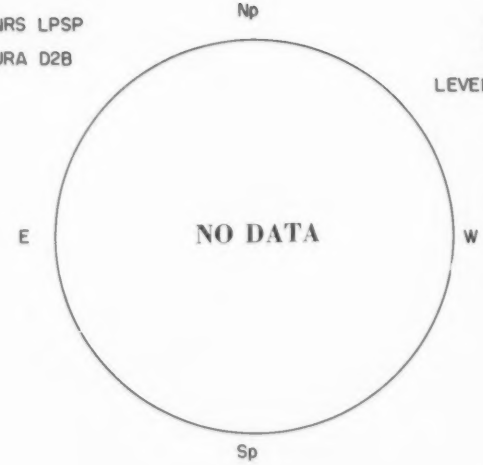
KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

CNRS LPSP
AURA D2B

FE XV
284 A

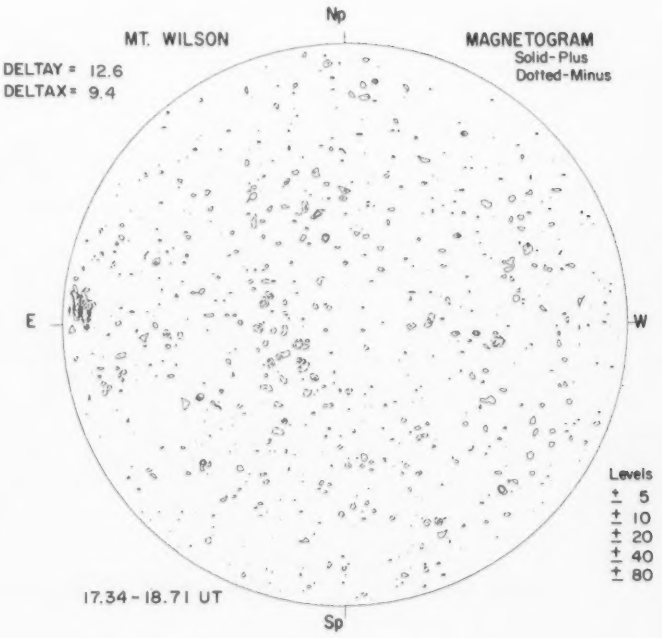
LEVEL 0 = 20
1 = 28
2 = 40
3 = 56
4 = 80
5 = 113
6 = 160
7 = 226
8 = 320
9 = 452
10 = 640



MT. WILSON

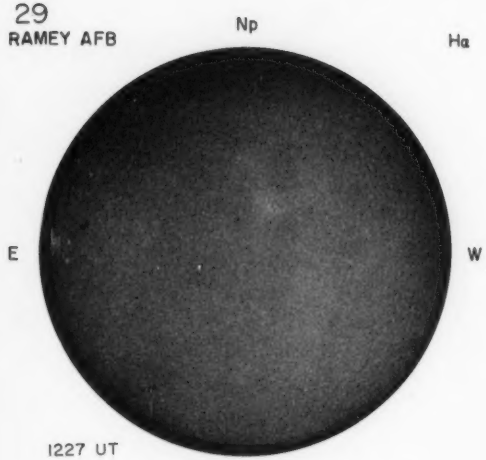
DELTAY = 12.6
DELTAX = 9.4

MAGNETOGRAM
Solid - Plus
Dotted - Minus



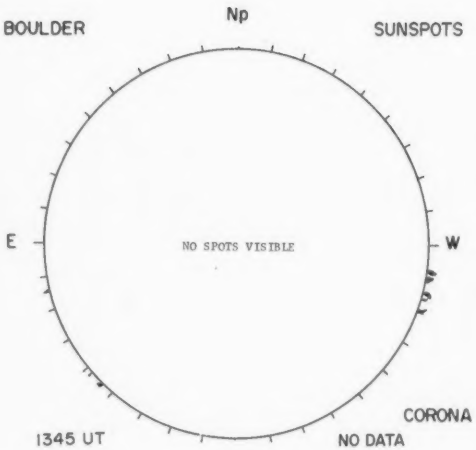
29

RAMEY AFB



1227 UT

Hα BOULDER



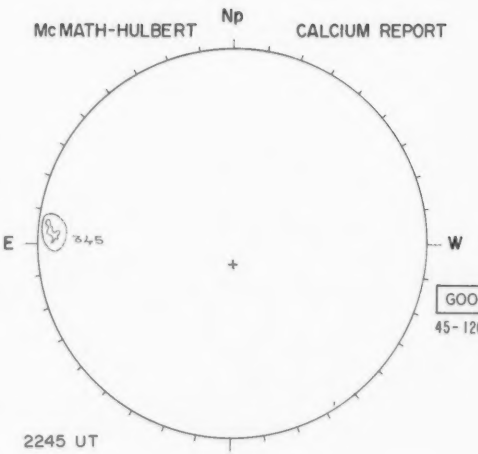
1345 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



2245 UT

CALCIUM REPORT

GOOD | M

45 - 1200 - 3.0

NELC LA POSTA

Np

2.0 CM

NO DATA

E EQUIPMENT W

Sp

----UT

Ant. Temp. Unit 100°K

NELC LA POSTA

Np

8.6 MM

NO DATA

E EQUIPMENT W

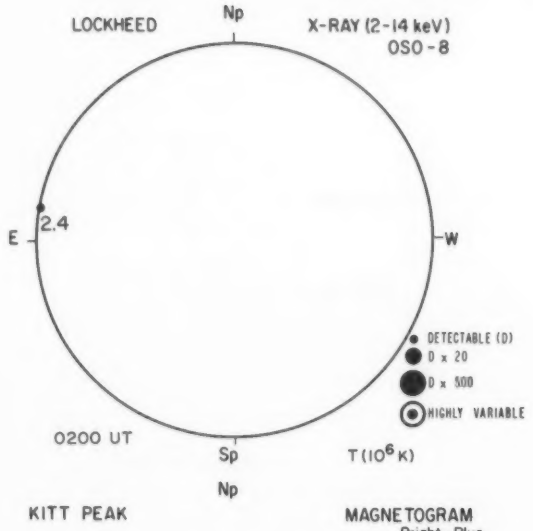
Sp

----UT

Ant. Temp. Unit 100°K

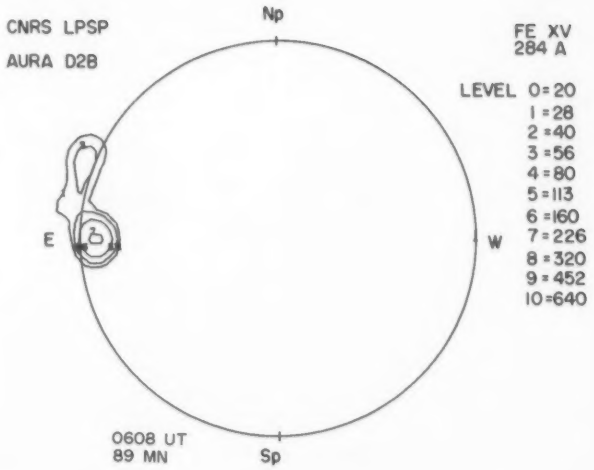
83
Jul 76

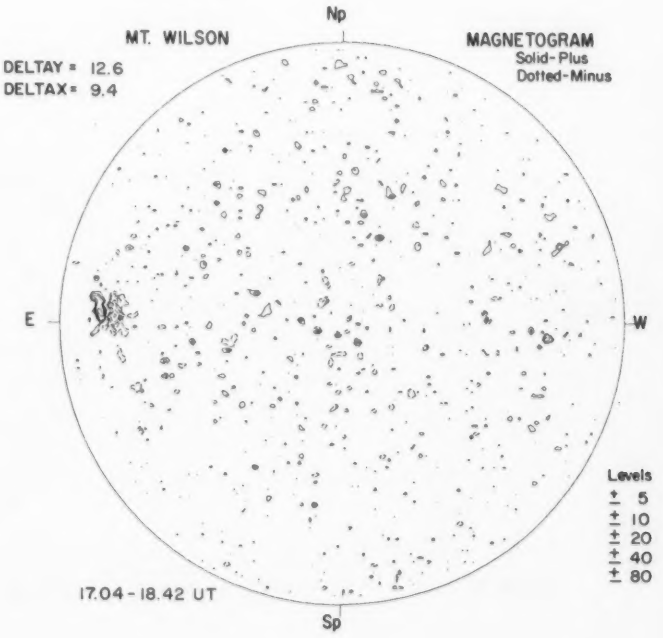
JULY 30, 1976 (P = 10.08, B_o = 5.67, L_o = 242.92)



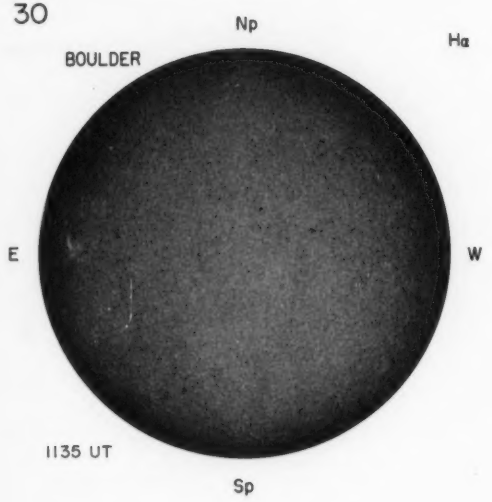
KITT PEAK

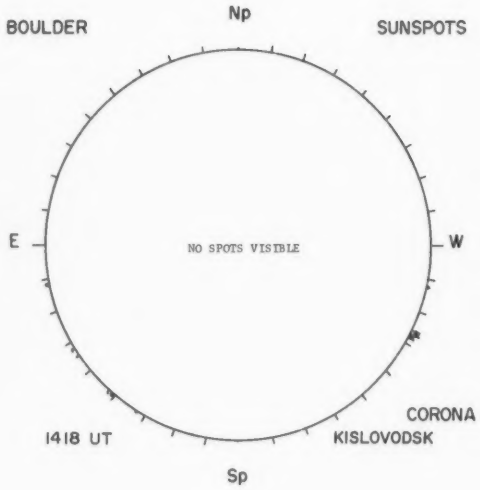
MAGNETOGRAM
Bright - Plus
Dark - Minus

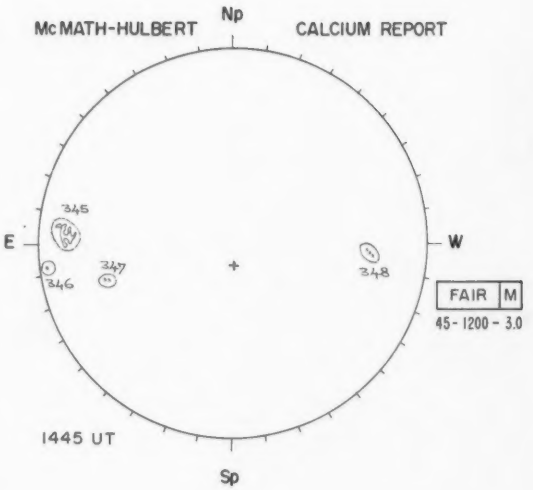




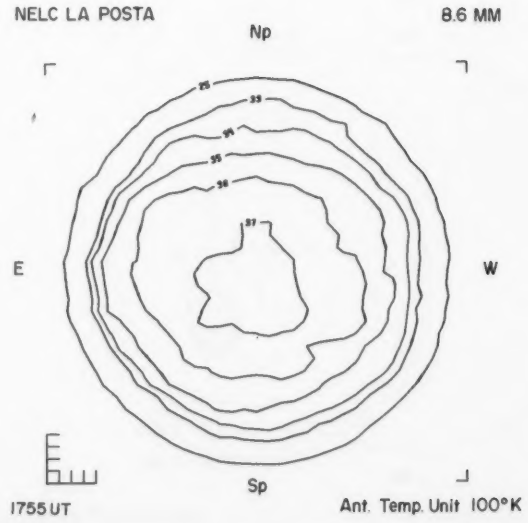
30


Np
BOULDER
E
W
1135 UT
Sp


Hα
BOULDER
Np
SUNSPOTS
E
NO SPOTS VISIBLE
W
CORONA
KISLOVODSK
1418 UT
Sp

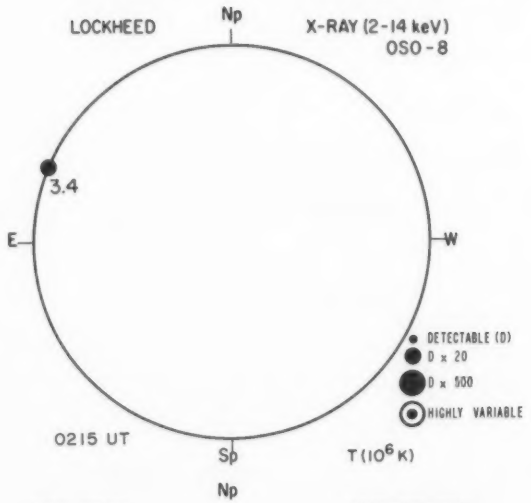

McMATH-HULBERT
Np
CALCIUM REPORT
E
345
346
347
348
W
FAIR
M
45 - 1200 - 3.0
1445 UT
Sp

NELC LA POSTA
Np
2.0 CM
NO DATA
E
EQUIPMENT
W
Sp
----UT
Ant. Temp. Unit 100°K


NELC LA POSTA
Np
8.6 MM
E
W
Sp
1755 UT
Ant. Temp. Unit 100°K

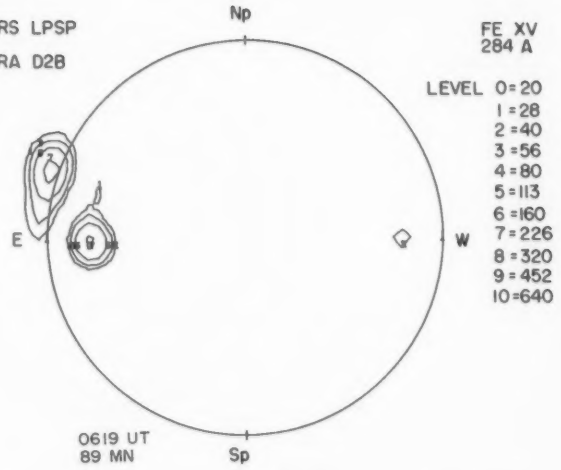
85
Jul 76

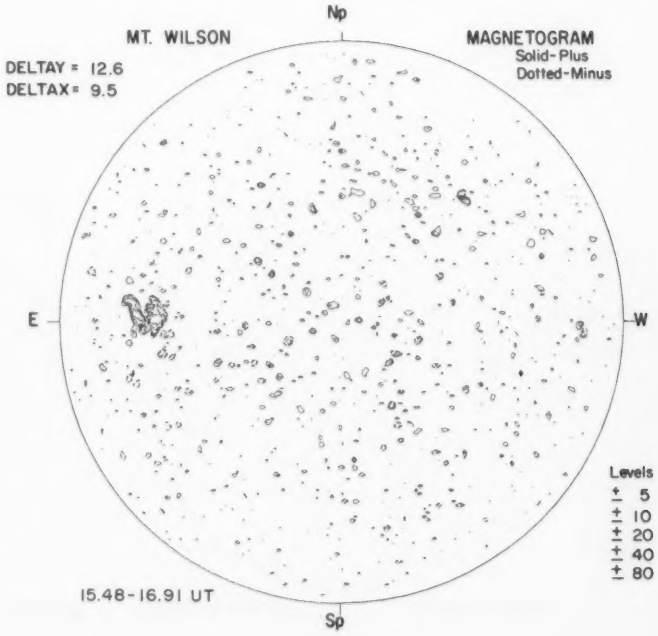
JULY 31, 1976 (P = 10.49, B_0 = 5.74, L_0 = 229.69)



KITT PEAK

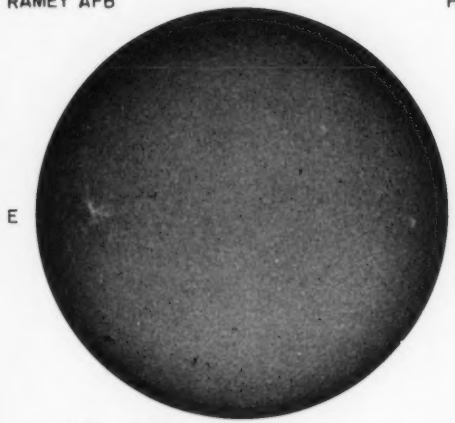
MAGNETOGRAM
Bright - Plus
Dark - Minus





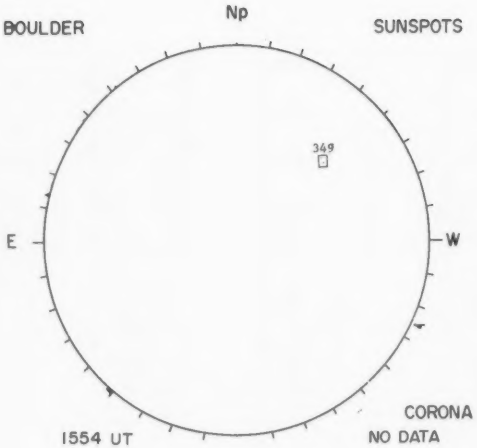
31

RAMEY AFB



1138 UT

Hα BOULDER



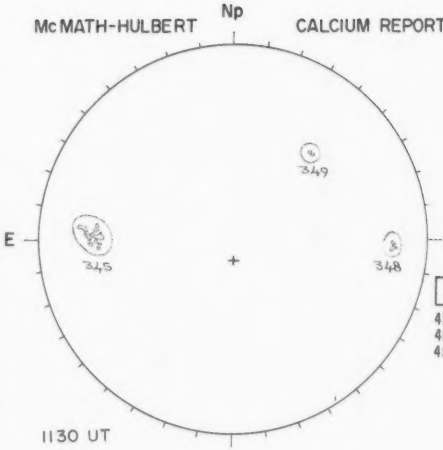
1554 UT

SUNSPOTS

CORONA

NO DATA

McMATH-HULBERT



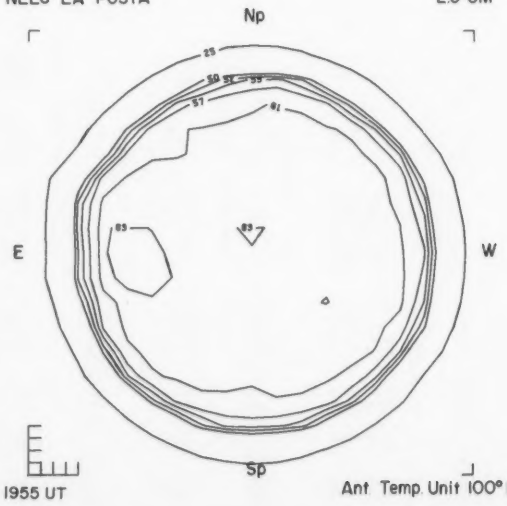
1130 UT

CALCIUM REPORT

FAIR	M

45 - 1300 - 3.0
48 - 0300 - 2.5
49 - 0200 - 2.5

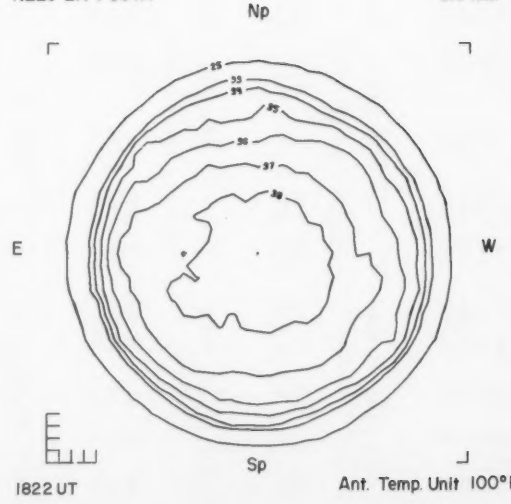
NELC LA POSTA 2.0 CM



1955 UT

Ant. Temp. Unit 100°K

NELC LA POSTA 8.6 MM



1822 UT

Ant. Temp. Unit 100°K

87
Jul 76

REGIONS OF SOLAR ACTIVITY

JULY 1976

MCMATH REGION 14300 CMP DATE 1.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	6	29	14300	N29 E27	251	100	1.0									

MCMATH REGION 14308 CMP DATE 2.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	7	5	14308	S31 W43	249	200	2.5									
76	7	6	14308	S30 W55	249	200	2.0									
76	7	7	14308	S30 W68	247	200	1.0									

MCMATH REGION 14309 CMP DATE 2.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	7	6	14309	N18 W56	250	100	2.0									

MCMATH REGION 14298 CMP DATE 2.8

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	6	28	14298	N23 E50	248	100	1.0									
76	6	29	14298	N24 E44	244	100	1.0									

MCMATH REGION 14315 CMP DATE 3.4

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	7	8	14315	S12 W67	234	200	1.5									

MCMATH REGION 14295 CMP DATE 3.7 RETURN OF REGION 14259 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	6	27	14295	S27 E83	230	100	1.0									
76	6	28	14295	S28 E65	233	200	1.5									
76	6	29	14295	S27 E55	233	300	1.0									

MCMATH REGION 14301 CMP DATE 4.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	6	29	14301	S01 E61	227	200	1.0									

MCMATH REGION 14304 CMP DATE 4.1

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
76	7	3	14304	N22 E07	226	200	2.5	19701	N21 E04	227	BP	B	0	3	BXO
76	7	4	14304	N22 W07	226	500	3.0	19701	N21 W09	228	BP	B	20	4	BXI
76	7	5	14304	N22 W22	228	500	2.5	19701	N22 W25	231	AP	H	20	2	BXO
76	7	6	14304	N23 W34	228	500	3.0	19701	N23 W34	226	BF	B	20	4	BXO
76	7	7	14304	N22 W47	226	400	3.0	19701	N23 W47	226	BF	B	0	1	AXX
76	7	8	14304	N23 W60	227	400	2.5								
76	7	9	14304	N23 W72	226	300	2.0								

REGIONS OF SOLAR ACTIVITY

JULY 1976

MCMATH REGION 14319 CMP DATE 4.6

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	6	14310	S03 W25	219	100	1.0								

MCMATH REGION 14318 CMP DATE 5.0

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	9	14318	S04 W60	214	100	1.0								

MCMATH REGION 14316 CMP DATE 5.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	8	14316	S12 W44	211	100	1.0								

MCMATH REGION 14305 CMP DATE 5.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	3	14305	S23 E23	210	100	1.0								
76	7	4	14305	S23 E09	210	100	1.5								

MCMATH REGION 14303 CMP DATE 6.4

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	1	14303	N20 E60	196	200	2.0								
76	7	2	14303	N19 E51	195	200	2.0								

MCMATH REGION 14317 CMP DATE 6.7

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	5	14317	S06 W24	191	100	1.0								

MCMATH REGION 14306 CMP DATE 6.8

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	4	14306	N28 E30	189	100	1.5								

MCMATH REGION 14311 CMP DATE 6.9

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	5	14311	N26 E18	188	100	1.0								
76	7	6	14311	N26 E05	189	100	1.0								

MCMATH REGION 14314 CMP DATE 7.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	7	14314	N01 W03	182	200	1.0								

REGIONS OF SOLAR ACTIVITY

JULY 1976

MCMATH REGION 14312 CMP DATE 7.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	6	14312	S08 E12	182	100	1.0							

MCMATH REGION 14328 CMP DATE 8.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	14	14328	N07 W82	169	200	1.5							

MCMATH REGION 14324 CMP DATE 9.1

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	12	14324	N15 W46	159	100	1.0							
76	7	13	14324	N15 W58	159	200	1.5							

MCMATH REGION 14321 CMP DATE 9.9

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	11	14321	N25 W23	150	100	1.0							
76	7	12	14321	N26 W35	148	100	1.0							

MCMATH REGION 14326 CMP DATE 9.9

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	13	14326	N58 W47	148	100	1.5							
76	7	14	14326	N58 W59	146	100	1.0							

MCMATH REGION 14307 CMP DATE 10.0

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	4	14307	S09 E75	144	400	1.0							
76	7	5	14307	S10 E62	144	300	1.0							
76	7	6	14307	S10 E48	146	300	1.5							
76	7	7	14307	S09 E33	146	300	1.0							
76	7	8	14307	S09 E20	147	200	1.0							
76	7	9	14307	S10 E07	147	300	1.0							
76	7	10	14307	S10 W08	143	200	1.0							
76	7	11	14307	S10 W22	143	200	1.0							
76	7	12	14307	S10 W35	148	200	1.0							
76	7	13	14307	S10 W47	148	200	1.0							

MCMATH REGION 14319 CMP DATE 12.6

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	9	14319	S32 E39	115	100	2.5							
76	7	10	14319	S32 E26	114	100	1.5							

MCMATH REGION 14327 CMP DATE 12.6

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	13	14327	S34 W12	113	100	1.0							

REGIONS OF SOLAR ACTIVITY

JULY 1976

MCMATH REGION 14329 CMP DATE 13.3

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	15	14329	S09 W39	104	200	3.0								
76	7	16	14329	S09 W43	104	200	2.0								
76	7	17	14329	S09 W57	104	100	1.0								

MCMATH REGION 14330 CMP DATE 13.6

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	16	14330	N38 W39	100	100	2.0								

MCMATH REGION 14320 CMP DATE 16.8 RETURN OF REGION 14275, 14282 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	10	14320	N05 E77	63	500	1.5								
76	7	11	14320	N06 E66	61	600	1.5								
76	7	12	14320	N06 E52	61	600	2.5								
76	7	13	14320	N06 E41	60	800	2.5								
76	7	14	14320	N05 E28	59	800	2.0								
76	7	15	14320	N05 E16	59	800	2.0		N05 E25			R	10	3	AXX
76	7	16	14320	N05 E03	58	800	2.0								
76	7	17	14320	N05 W11	58	700	1.5								
76	7	18	14320	N05 W24	58	700	1.5								
76	7	19	14320	N05 W37	58	500	1.0								
76	7	20	14320	N05 W52	58	500	1.0								
76	7	21	14320	N05 W64	60	400	1.0								
76	7	22	14320	N05 W77	60	300	1.0								
76	7	23	14320	N06 W89	56	200	1.0								

MCMATH REGION 14331 CMP DATE 20.2

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	19	14331	S01 E08	13	100	1.0								

MCMATH PEGION 14334 CMP DATE 21.0

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	21	14334	S09 W06	2	100	2.0								

MCMATH REGION 14332 CMP DATE 22.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	20	14332	S01 E24	343	100	1.0	19702	S01 E24	344	AP				

MCMATH REGION 14336 CMP DATE 22.5

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	24	14336	N25 W31	344	100	1.0								

MCMATH REGION 14337 CMP DATE 24.4

				CALCIUM PLAGE DATA				SUNSPOT DATA							
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT	CLASS
76	7	25	14337	S25 W16	319	200	1.5								

REGIONS OF SOLAR ACTIVITY

JULY 1976

MCMATH REGION 14333 CMP DATE 26.2 RETURN OF REGION 14287 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	20	14333	S29 E75	292	200	1.5							
76	7	21	14333	S29 E64	293	300	2.0							
76	7	22	14333	S29 E49	294	300	2.0							
76	7	23	14333	S29 E35	293	200	2.0							
76	7	24	14333	S29 E22	291	100	1.5							
76	7	25	14333	S30 E09	294	100	1.0							

MCMATH REGION 14341 CMP DATE 26.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	27	14341	N48 W15	291	200	1.0							

MCMATH REGION 14338 CMP DATE 26.6

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	26	14338	S40 E01	290	100	1.0							

MCMATH REGION 14335 CMP DATE 26.8

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	21	14335	N23 E69	288	100	2.0							
76	7	22	14335	N24 E56	287	100	1.5							

MCMATH REGION 14340 CMP DATE 26.8

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	27	14340	N10 W10	286	100	1.5							
76	7	29	14340	N10 W24	288	200	1.5							

MCMATH REGION 14348 CMP DATE 27.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	30	14348	N02 W42	278	100	1.0							
76	7	31	14348	N02 W55	280	300	2.5							

MCMATH REGION 14349 CMP DATE 29.4

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	31	14349	N32 W28	253	200	2.5							
76	8	1	14349	N32 W43		200	1.0							

MCMATH REGION 14350 CMP DATE 29.6

				CALCIUM PLAGE DATA				SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	8	1	14350	N00 W37		200	1.0							

REGIONS OF SOLAR ACTIVITY

JULY 1976

MCMATH REGION 14339 CMP DATE 29.7

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	26	14339	N27 E41	250	200	1.5							
76	7	27	14339	N27 E24	248	200	1.5							

MCMATH REGION 14344 CMP DATE 30.7

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	29	14344	N33 E28	236	100	1.5							

MCMATH REGION 14342 CMP DATE 31.2

			CALCIUM PLAGE DATA					SUNSPOT DATA						
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H STA	AREA	CNT CLASS
76	7	27	14342	S21 E48	228	200	1.0							

Note: Calcium spectroheliograms were obtained at the McMath-Hulbert Observatory on every day in July 1976.
No sunspot observations were made at Mt. Wilson Observatory on July 15, 1976.

DAILY CALCIUM PLAGE INDEX

JULY 1976

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
76	7	1	1.5	76	7	11	0.6	76	7	21	0.6
76	7	2	1.7	76	7	12	1.2	76	7	22	0.5
76	7	3	1.4	76	7	13	1.9	76	7	23	0.3
76	7	4	2.0	76	7	14	1.5	76	7	24	0.2
76	7	5	1.7	76	7	15	2.0	76	7	25	0.3
76	7	6	2.0	76	7	16	2.0	76	7	26	0.3
76	7	7	1.2	76	7	17	1.1	76	7	27	0.7
76	7	8	0.9	76	7	18	1.0	76	7	28	0.4
76	7	9	0.7	76	7	19	0.5	76	7	29	1.2
76	7	10	0.5	76	7	20	0.4	76	7	30	1.9
								76	7	31	3.3

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

JULY 1976

DAY	UNIVERSAL TIME				WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE							KNOWN FLARE	McMATH REGION
	START	END	MAX	IMP		SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD		

THERE WERE NO FLARE ASSOCIATED EVENTS TO REPORT THIS MONTH

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01	0150-0245 UM (10 kHz), 1936-2138 UM (10 kHz), 1955-2015 UM (13 kHz)
02	0100-0350 UM (10 kHz), 1933-2125 UM (10 kHz)
03	1935-2115 UM (10 kHz), 1953-2020 UM (13 kHz)
04	0651-0742 UM (10 kHz), 1935-2105 UM (10 kHz), 1955-2025 UM (13 kHz), 2300-2400 UM (10 kHz)
05	0000-0135 UM (10 kHz), 1936-2126 UM (10 kHz)
06	0000-2400 A36, 0650-0725 UM (10 kHz) 2030-2157 UM (10 kHz)
07	0000-2400 A36, 1936-2118 UM (10 kHz)
08-09	0715-1420 A35
08	0704-1120 MC, 1935-2136 UM (10 kHz)
09-31	1845-2400 A35
09	1935-2116 UM (10 kHz), 2253-2400 UM (10 kHz)
10	0000-0230 UM (10 kHz), 0252-0417 UM (10 kHz), 1117-1906 TM, 1945-2223 UM (10 kHz)
11	1937-2112 UM (10 kHz)
12	0145-0254 UM (10 kHz), 1927-2152 UM (10 kHz)
13-20	0000-2400 A36

DATE	TIME (UT) and STATION
13	0000-2400 A29, 1940-2134 UM (10 kHz)
14	0655-0705 UM (10 kHz), 1938-2105 UM (10 kHz)
15	0650-1718 UM (10 kHz), 0848-0909 UM (10 kHz), 1931-2114 UM (10 kHz)
16	1935-2100 UM (10 kHz)
17	0253-0435 UM (10 kHz), 1941-2117 UM (10 kHz)
18	1940-2142 UM (10 kHz)
19	0239-0335 UM (10 kHz)
21	0000-2400 A33, 1420-1435 MC
23	1221-1234 MC
25	0343-0423 UM (10 kHz), 1942-2111 UM (10 kHz), 2245-2400 UM (10 kHz)
26	1938-2104 UM (10 kHz)
27	1938-2105 UM (10 kHz)
28	1950-2103 UM (10 kHz)
29	1940-2011 UM (10 kHz)
30	0025-0110 UM (10 kHz), 1940-2131 UM (10 kHz)
31	1030-1400 TM, 1947-2105 UM (10 kHz)

STATIONS REPORTING FOR JULY 1976

AAVSO (A1, A19, A21, A29, A30, A31, A33, A34, A35, A36, A37, A40) (SES) (A1, A26, A31, A32) (SEA) (A31) (SWF)
DEBRE ZEIT (DE) (SPA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
MCMATH (MC) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
PRESTON (LO) (SEA)
SAO PAULO (SES, SPA)
SOFIA (SF) (SES)
ST CLOUD (SC) (SES)
TABLE MOUNTAIN (TM) (SPA, LF-SPA)
TORINO (TN) (SPA)
UPICE (UI) (SEA)

Note: Table Mountain discontinued monitoring LORAN-C at Jupiter, Florida on August 28 at 1756 UT.

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1976

JUL 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0455	MANI										
	0400	1842	WEIS										
	0430	1818	DURN										
	0525	1015	MANI										
	0914	2420	SGMR										
	1219	2245	HARV										
	2036	2203	CULG										
	2134	2400	MANI										
02	0000	1015	MANI										
	0400	1455	WEIS										
	0431	1818	DURN										
	0915	2420	SGMR										
	1219	2245	HARV										
	2036	2220	CULG										
	2134	2400	MANI										
03	0000	1016	MANI										
	0431	1527	DURN										
	0435	0736	CULG										
	0843	1842	WEIS										
	0915	2420	SGMR										
	1219	2245	HARV										
	2036	2400	CULG										
	2134	2400	MANI										
04	0000	1017	MANI										
	0000	0710	CULG										
	0400	1403	WEIS										
	0628	1818	DURN										
	0916	2419	SGMR										
	1219	2245	HARV										
	1428	1842	WEIS										
	2036	2400	CULG										
	2135	2400	MANI										
05	0000	1017	MANI										
	0000	0714	CULG				0259.5						IIIB,W
	0400	1020	WEIS										
	0432	1818	DURN										
	0916	2419	SGMR										
	1031	1842	WEIS										
	1231	2245	HARV										
	2044	2400	CULG										
	2135	2400	MANI										
06	0000	1017	MANI										
	0000	0736	CULG										
	0401	0502	WEIS										
	0554	1818	DURN										
	0655	1423	WEIS										
	0918	2418	SGMR										
	1231	2245	HARV										
	1435	1440	WEIS										
	1445	1842	WEIS										
	2036	2400	CULG										
	2135	2400	MANI										
07	0000	0645	MANI										
	0000	0736	CULG										
	0433	1818	DURN										
	0650	0655	MANI										
	0708	1017	MANI										
	0401	1310	WEIS				0842.1	0842.2	2				IIIU
	0918	2418	SGMR										
	1232	2245	HARV										
	2036	2400	CULG										
	2135	2400	MANI										
08	0000	1017	MANI										

Note: Severe wind damage to the University of Colorado (BOUL) antenna has caused suspension of activity from this station as of June 14, 1976.

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1976

JUL 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
08	0000	0737	CULG										
	0637	1818	DURN										
	0708	0810	WEIS										
	0834	1313	WEIS										
	0918	2418	SGMR										
	1231	2245	HARV										
	1339	1341	WEIS										
	1625	1746	WEIS										
	2037	2400	CULG										
	2135	2400	MANI										
09	0000	1017	MANI										
	0000	0737	CULG										
	0415	1529	WEIS										
	0434	1825	DURN										
	0919	2418	SGMR										
	1232	2245	HARV										
	2037	2400	CULG										
	2135	2400	MANI										
10	0000	1017	MANI										
	0000	0736	CULG										
	0435	1825	DURN										
	0920	2417	SGMR										
	1232	2230	HARV										
	2037	2400	CULG										
	2136	2400	MANI										
11	0000	0748	MANI										
	0000	0737	CULG										
	0435	1825	DURN										
	0819	1020	MANI										
	0920	2417	SGMR										
	1231	2245	HARV										
	2037	2400	CULG										
	2136	2400	MANI										
12	0000	1020	MANI										
	0000	0737	CULG										
	0435	1825	DURN										
	0655	1838	WEIS										
	0921	2416	SGMR										
	1232	2245	HARV										
	2037	2400	CULG										
	2137	2400	MANI										
13	0000	0748	MANI										
	0000	0737	CULG										
	0418	0847	WEIS										
	0436	1825	DURN										
	0814	1020	MANI										
	0922	2415	SGMR										
	1232	2245	HARV										
	1331	1833	WEIS										
	2038	2400	CULG										
	2137	2400	MANI										
14	0000	1020	MANI										
	0000	0737	CULG										
	0419	0748	WEIS										
	0436	1825	DURN										
	0815	1310	WEIS										
	0923	2415	SGMR										
	1232	2245	HARV										
	1506	1837	WEIS										
	2038	2144	CULG										
	2137	2400	MANI										
15	0000	1021	MANI										
	0420	0722	WEIS										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1976

JUL 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
15	0436	0624	DURN										
	0634	1825	DURN										
	0726	1838	WEIS										
	0924	2414	SGMR										
	1430	2245	HARV										
	2050	2400	CULG										
	2137	2400	MANI										
16	0000	1021	MANI										
	0000	0737	CULG										
	0418	0740	WEIS										
	0437	1825	DURN										
	0821	1401	WEIS										
	0924	2414	SGMR										
	1232	2245	HARV										
	2038	2400	CULG										
	2137	2400	MANI										
17	0000	1022	MANI										
	0000	0738	CULG										
	0436	1825	DURN										
	0925	2413	SGMR										
	1232	2245	HARV										
	2038	2400	CULG										
	2137	2400	MANI										
18	0000	1022	MANI										
	0000	0738	CULG										
	0436	1825	DURN										
	0926	2412	SGMR										
	1232	2245	HARV										
	2038	2400	CULG										
	2138	2400	MANI										
19	0000	1022	MANI										
	0000	0738	CULG										
	0550	1825	DURN										
	0643	1830	WEIS										
	0927	2411	SGMR										
	1232	2245	HARV										
	2038	2400	CULG										
	2138	2400	MANI										
20	0000	1022	MANI										
	0000	0718	CULG										
	0424	1642	WEIS										
	0436	1825	DURN										
	0728	0738	CULG										
	0928	2411	SGMR										
	1232	2245	HARV										
	1645	1833	WEIS										
	2039	2400	CULG										
	2138	2400	MANI										
21	0000	1022	MANI										
	0000	0738	CULG										
	0425	1832	WEIS										
	0440	0835	DURN										
	0929	2410	SGMR										
	1232	2245	HARV										
	1508	1825	DURN										
	2039	2400	CULG										
	2139	2400	MANI										
22	0000	1023	MANI										
	0000	0738	CULG										
	0426	0506	WEIS										
	0440	1825	DURN										
	0709	0741	WEIS										
	0801	1830	WEIS										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1976

JUL 1973	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
22	0930	2409	SGMR										
	1232	2245	HARV										
	2039	2400	CULG										
	2139	2400	MANI										
23	0000	1023	MANI										
	0000	0738	CULG										
	0428	1325	WEIS										
	0443	0626	DURN										
	0633	1825	DURN										
	0931	2408	SGMR										
	1232	2245	HARV										
	1340	1418	WEIS										
	1428	1437	WEIS										
	2039	2400	CULG										
	2139	2400	MANI										
24	0000	1024	MANI										
	0000	0738	CULG										
	0443	1825	DURN										
	0932	2407	SGMR										
	1232	2245	HARV										
	2039	2400	CULG										
	2139	2400	MANI										
25	0000	1024	MANI										
	0443	1832	DURN										
	0000	0716	CULG				0605	0608					IIIG,W
	0933	2406	SGMR										
	1232	2245	HARV										
	2038	2400	CULG										
	2139	2400	MANI										
26	0000	1024	MANI										
	0000	0739	CULG										
	0443	1835	DURN										
	0658	1727	WEIS										
	0934	2405	SGMR										
	1232	2245	HARV										
	2039	2400	CULG										
	2140	2400	MANI										
27	0000	1024	MANI										
	0000	0739	CULG										
	0432	0820	WEIS										
	0443	0510	DURN										
	0616	1835	DURN										
	0822	1825	WEIS										
	0935	2404	SGMR										
	1232	2245	HARV										
	2039	2400	CULG										
	2141	2400	MANI										
28	0000	1024	MANI										
	0000	0738	CULG										
	0432	1004	WEIS										
	0444	1835	DURN										
	0935	2403	SGMR										
	1056	1431	WEIS										
	1232	2245	HARV										
	1441	1542	WEIS										
	2039	2400	CULG										
	2141	2400	MANI										
29	0000	1023	MANI										
	0000	0738	CULG										
	0445	1835	DURN										
	0824	0833	WEIS										
	0936	2402	SGMR										
	1232	2245	HARV										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JULY 1976

JUL 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
29	2039	2400	CULG										
	2141	2400	MANI										
30	0000	1023	MANI										
	0434	0846	WEIS										
	0445	1835	DURN										
	0000	0724	CULG				0525	0724					IS,W
	0654	1823	WEIS										
	1247	2245	HARV										
	0937	2401	SGMR							1948.0	1948.2	1	III
	2038	2400	CULG				2105	2400					IS,W
	2141	2400	MANI										
			CULG				2335	2336	1				IIIG
			CULG				2354.5	2357.5	1				IIIG
31			CULG				0000	0210					IIIS,W
	0000	0738	CULG				0000	0450	1				IS
	0000	1023	MANI							0139.5	0139.9	2	III
			CULG				0139	0140	1	0139	0140	1	IIIG,V,U
			CULG				0324	0328	1				IIIGG
			CULG				0350.5	0706					IIIN,W
			CULG	0405	0406	1	0403	0406	1				IIIG
	0446	1843	DURN	0446 D	1843 E	1	0446 D	1843 E	1				I,DC,N
	0435	1511	WEIS				0546.0	0843.0	1				IS
			CULG	0546	0718	1	0450	0722	1				IS
			WEIS				0553.9	0554.1	1				IIIB
			CULG				0554		1				IIIB
			WEIS				0559.8	0601.6	2				IIIG
			CULG	0601	0601.5	1	0559.5	0601.5	1				IIIG
			WEIS				0659.4	0700.8	1				IIIG
			WEIS				0756.2	0757.5	2				IIIG
			MANI							0756.4	0756.7	2	III
			WEIS				0821.3	0821.5	2				IIIB
			WEIS				0848.3	0849.6	1				IIIG
			WEIS				0900.7	0901.8	1				IIIG
			WEIS				0903.7	0904.4	1				IIIG
			WEIS				0908.7	0908.8	1				IIIB
	1247	2351	HARV				1254	2200	1				IN
			WEIS				1453.7	1454.1	1				IIIG
	0938	2400	SGMR							1453.9	1454.9	2	V
			SGMR							1850.8	1851.0	1	III
			SGMR							1944.3	1953.0	2	IIIG
			HARV				1952	1954	1				IIIGG
	2142	2300	MANI										
			HARV				2200	2351	1				I

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

SELECTED SOLAR EVENTS

JULY 1976

Culgoora

UT Date 1976. JULY	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
31	0139	0142	80	1.0	90	0	3	IIIG,V,U	
			43	1.5					
	0139	0407	160	1.0	65	L	1	I	
			80	1.1	60	L	1	I	Intermittent activity mainly from second position
				1.0	90				
	0403	0406	160	1.0	90	0	2	IIIG	
			80	1.0					
			43	1.3					

Days without Heliograph observations: ....Nil.....

COSMIC RAY INDICES

(Neutron Monitors)

JULY 1976

July	THULE* Average cts/hr	ALERT Average cts/hr	DEEP RIVER Average cts/hr	CALGARY Average cts/hr	SULPHUR MT Average cts/hr	KIEL Average cts/hr	CLIMAX Average cts/hr	TOKYO Average cts/hr
1		7488.6	7017.3	11648.3	9010.2	6312.8	4233.3	3536.0
2		7496.4	7011.9	11690.4	9024.5	6316.0	4233.5	3534.9
3		7495.5	7017.5	11680.0	9030.3	6333.7	4227.0	3528.5
4		7516.3	7030.2	11689.6	9024.3	6344.6	4219.1(30)	3531.4
5		7537.5	7037.4	11708.0	9040.1	6342.8	4229.1(24)	3528.3
6		7535.9	7044.7	11724.0	9057.2	6359.5	4242.8(40)	-- (0)
7		7553.1	7079.2	11773.4	9105.5	6386.0	4261.5	-- (0)
8		7561.6	7107.8	11817.5	9168.9	6409.2	4276.0	-- (0)
9		7567.9	7116.8	11828.7	9133.1	6410.6	4269.2(24)	3670.0(17)
10		7576.2	7115.3	11835.6	9136.7	6410.9	4280.3	3665.7
11		7593.9	7128.3	11867.3	9173.7	6415.0	4293.6	3657.9
12		7621.6	7157.2	11890.7	9202.8	6414.3	4297.9	3660.3
13	no observations *	7621.8	7151.4	11873.5	9190.8	6415.7	4293.7	3662.8
14		7620.6	7148.1	11900.0	9207.5	6421.3	4308.2	3667.2
15		7636.0	7120.0	11845.8	9177.8	6404.4	4278.1	3661.8
16		7552.7	7079.2	11774.7	9079.2	6376.7	4265.2	3664.1
17		7524.5	7081.8	11761.6	9082.1	6355.8	4257.7	3662.1
18		7532.8	7072.5	11752.3	9087.2	6337.8	4242.1	3654.8
19		7525.0	7046.9	11718.0	9066.5	6337.9	4236.2	3653.5
20		7531.9	7042.8	11737.1	9082.8	6341.3	4231.7	3663.4
21		7557.0	7064.4	11771.2	9100.4	6359.0	4240.2	3663.5
22		7536.0	7062.1	11758.5	9072.2	6346.0	4232.5	3660.2
23		7531.1	7052.6	11743.8	9050.6	6339.0	4224.7	3669.7
24		7521.7	7065.3	11746.4	9075.3	6341.3	4227.2	3669.8
25		7517.1	7072.8	11744.3	9056.8	6346.5	4239.0	3675.8
26		7519.3	7063.8	11763.7	9082.9	6360.3	4239.3	3668.0
27		7505.3	7069.9	11694.7	9078.9	6353.4	4239.2	3673.4
28		7523.8	7085.7	11762.0	9095.3	6386.4	4264.0	3676.9
29		7511.1	7090.5	11718.5(23)	9110.1	6386.0	4263.7	3673.4
30		7531.2	7082.0	11688.6	9101.2	6399.2	4257.9	3658.5(20)
31		7556.4	7098.7	11715.4	9107.1	6408.5	4263.9	3671.4
MEAN		7545.1	7077.9	11762.1	9097.2	6370.1	4254.4	3641.5

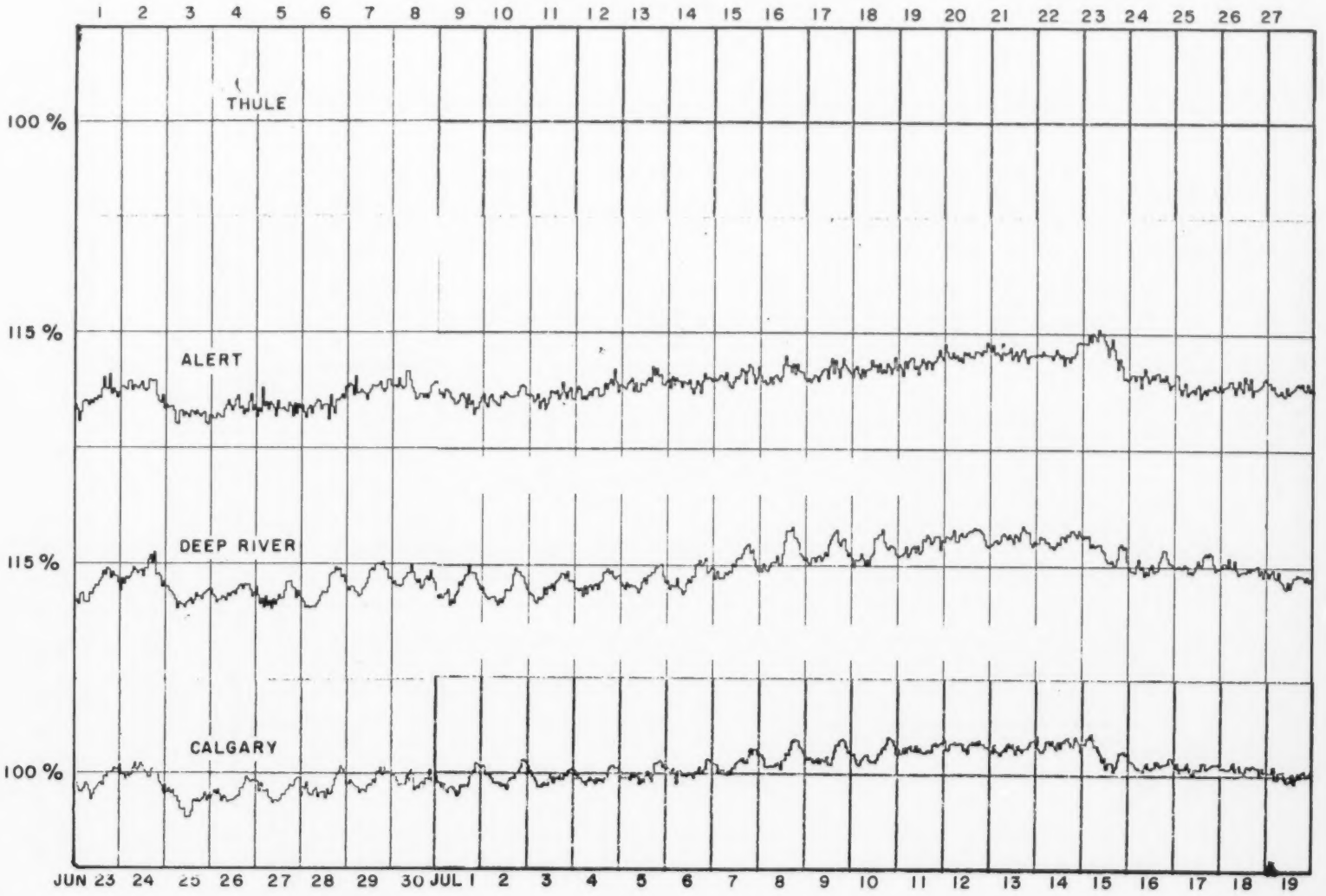
( ) Number of hours for which data are available if less than 24. Number of Section Hours at Climax if sum of both sections is less than 40 hours.

Thule, Alert, Calgary, Sulphur Mountain, Kiel and Climax Scaling Factors = 100.
Deep River Scaling Factor = 300.
Tokyo Scaling Factor = 128.

* Due to the closing of the Geopole Station the Thule neutron monitor operations were temporarily suspended at the end of May 1976. It is expected that observations will be resumed in the not too distant future.

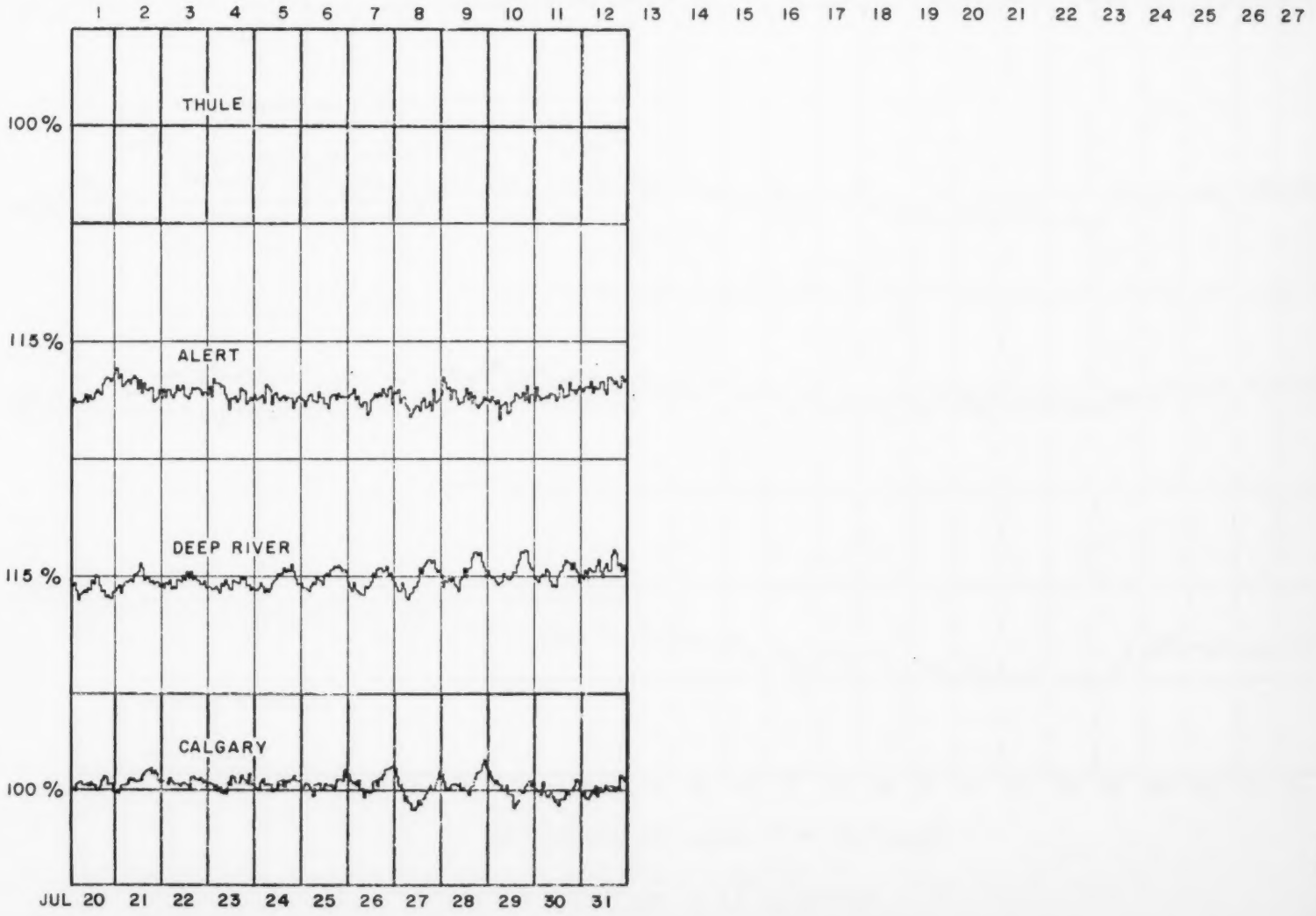
COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1954 (June - July 1976)



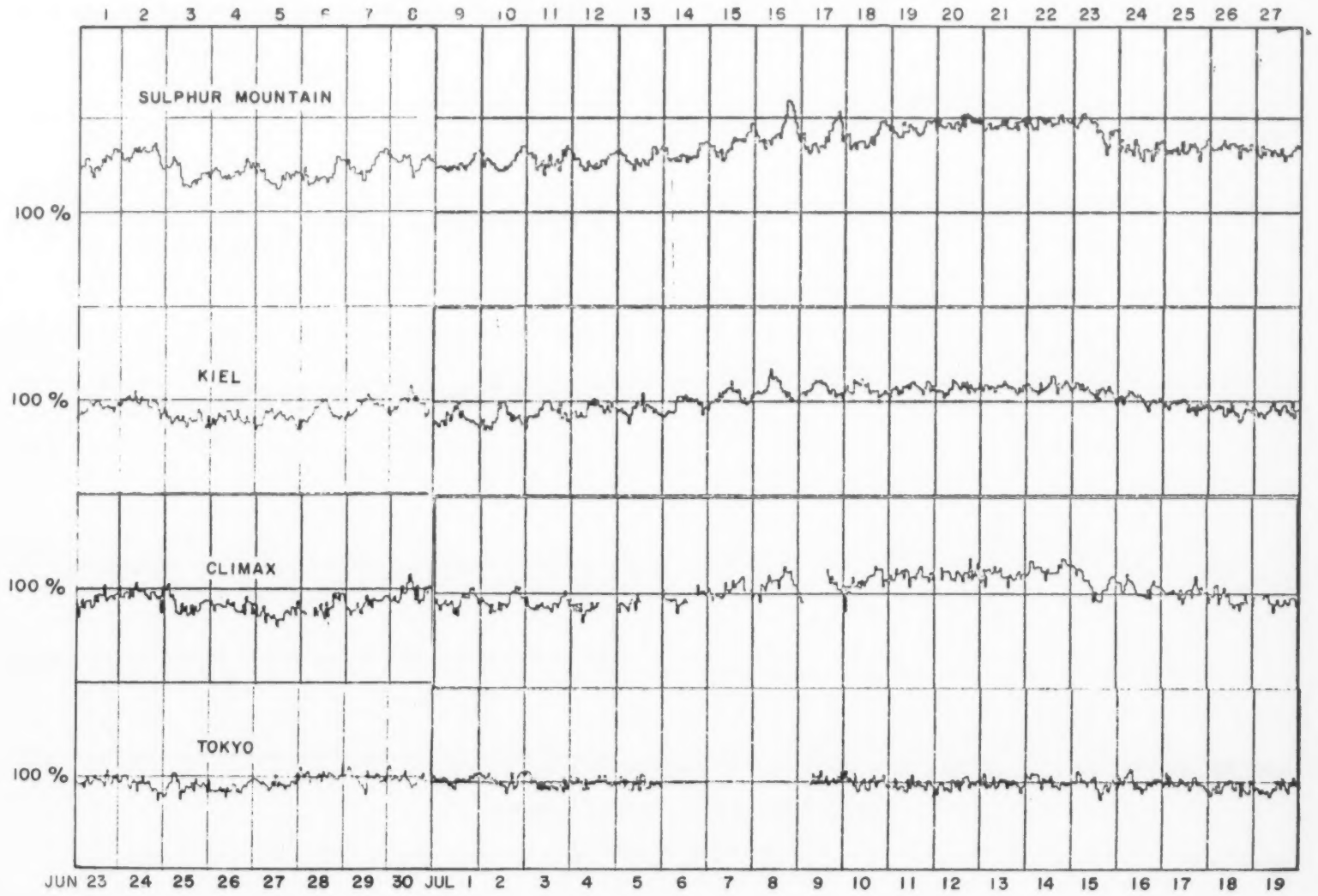
COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1955 (July 1976)



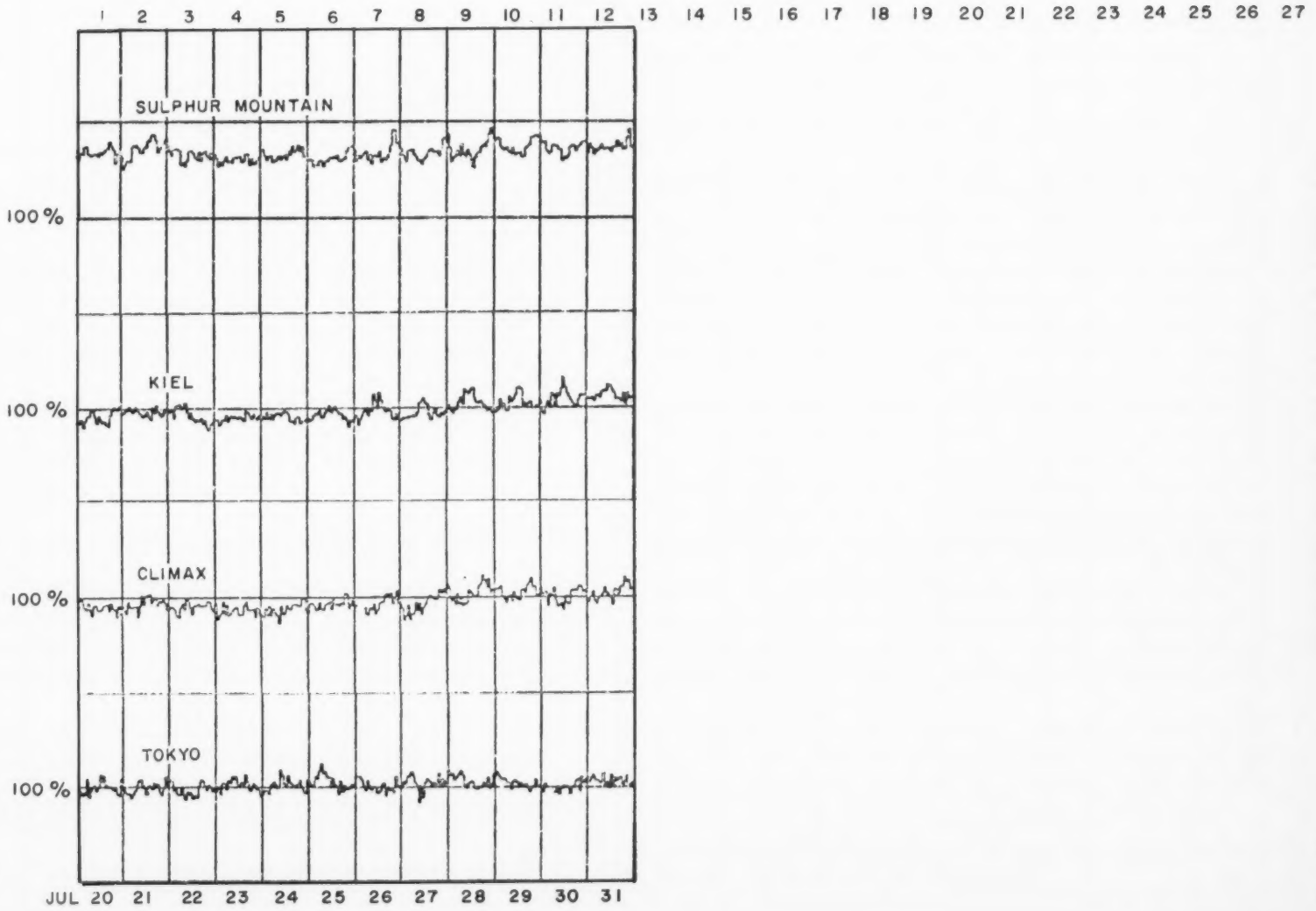
COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1954 (June - July 1976)



COSMIC RAY INDICES
(Neutron Monitors)

Bartel's Rotation 1955 (July 1976)



GEOMAGNETIC ACTIVITY INDICES

JULY 1976

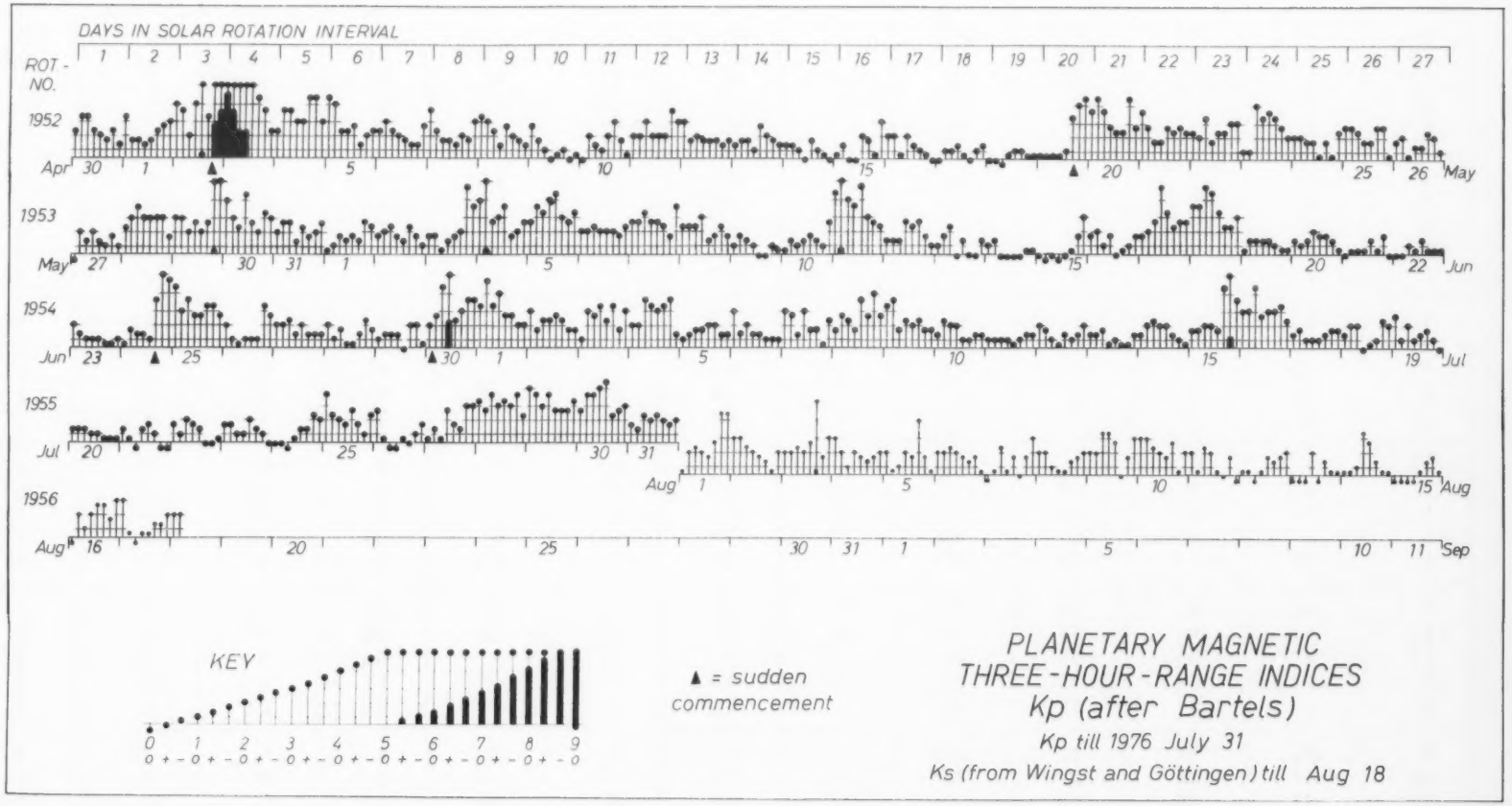
Day	Three-Hourly Indices Kp									Three-Hourly Indices Km								Ap	aa				Cp
		1	2	3	4	5	6	7	8	Sum	1	2	3	4	5	6	7	8		N	S	M		
1	D	3+	5-	3+	4	3-	3-	2	2	25-	3+	4+	3	4-	3	3-	2	2-	18	30	38	47	22		1.0
2		3	2-	2+	2+	3-	2+	2-	2-	18-	3	2	3	2+	3-	2+	2-	2-	9	21	20	21	21		0.5
3		1	3	3-	3+	2+	3+	2-	3	20+	1	3	3-	4-	2+	3	2	3	12	25	30	31	24		0.7
4		2	2	4-	3+	3	3+	4-	1+	22+	2	2	4	3	3-	3-	3	2-	14	26	36	31	31		0.8
5		1	1+	2-	2-	2	2	1+	1+	12+	1+	2-	2-	2-	2+	2+	1+	1+	6	17	13	12	18		0.3
6		3	1+	2	1+	1+	1	1	1	12	3	1+	2-	1	2-	2-	1+	1	6	14	10	15	10	C	0.3
7		3	3-	1+	3	2-	2-	1-	2+	16+	3-	2+	2	2+	2-	2+	1+	3-	9	22	11	18	15		0.5
8		2-	3-	2+	2-	4-	3-	4	3-	21+	1+	3-	2+	2	3	3-	3+	2+	13	28	21	19	31		0.8
9		3+	4-	2-	2+	2	2+	2-	2-	19-	3	3	2	3-	2-	2	2	2-	10	24	14	23	16		0.6
10		1+	2+	2	2	1	1	1+	1+	12+	1+	3-	2+	2+	1+	1-	1+	1	6	16	9	15	10	CC	0.3
11	QQ	1	1	1	1	1-	1	1+	1+	8+	1+	1	1	1	1	1+	2-	1+	4	11	5	7	10	CC	0.1
12	Q	2	2-	1	1-	1+	1	1+	2	11	2	1+	1+	1	1	1	1+	2	5	14	8	10	12	CC	0.2
13	QQ	1+	1+	2-	1-	1	1-	1-	1+	9-	1+	2-	1+	1+	1+	1	1-	1	4	11	6	9	8	CC	0.1
14		1+	2	2+	2	2	1+	1	1-	13-	1+	2-	2+	2-	2	1+	1-	1-	6	17	7	13	12	CC	0.3
15	D	2-	2-	2	2	2-	4+	6-	4-	23-	2-	2-	2	2+	2	4-	4	3	19	36	16	12	41		1.0
16	D	3	3	4+	3-	3	3	3+	2+	25-	3	3	4	2+	3	2+	3+	2+	16	33	30	34	30		0.9
17	Q	1+	2-	1	1	1	1+	2-	2-	11-	1+	2	1	1+	2-	1+	1+	2-	5	15	10	11	14	C	0.2
18		1+	2	2	0+	1-	1	2+	2	12-	1+	2	2-	1-	1	1+	2-	2-	6	13	7	10	11	CC	0.2
19		3-	1	2	1	1+	2-	1	0+	11	3-	1	2-	1	1+	2-	1+	1-	6	15	9	14	10	CC	0.2
20	QQ	1+	1+	1+	1	1	1-	1-	1-	8	1	1+	1+	1+	1	1	1	1	4	12	4	9	7	CC	0.1
21	QQ	1+	1-	0	1+	2-	1	0	0	6	1	1-	0+	1+	1+	1+	0	0+	3	9	5	7	7	CC	0.1
22	Q	2-	1	2	2-	1+	0+	0+	1-	9	1+	1	2+	2	1+	1-	0+	1-	4	12	8	13	7	CC	0.2
23	Q	2-	2-	1	1	2	1+	1	0+	10	2-	2-	1	1	2	2-	1	1-	5	14	8	9	13	CC	0.2
24	Q	0+	0+	0	1-	1+	1+	2+	2	8+	0+	1-	0+	1-	1+	1+	2+	2-	4	12	7	6	14	C	0.1
25		4-	2+	2	2-	3-	2-	1	2+	17+	3+	2+	2	2-	2+	2-	1	2+	9	24	15	23	16		0.5
26	QQ	3-	1-	0	0	1-	0+	1	2-	7	2+	1-	0	0+	0+	1-	1	2	4	11	6	8	8	CK	0.1
27		1-	1+	1-	3-	2-	1+	3	3	14+	1+	2	1+	3-	2	1+	3-	3-	8	17	20	16	21		0.4
28		3+	3-	4-	3	3+	3	4-	2+	25	3+	3-	4-	3	3	3-	3+	2+	16	38	28	31	36		0.9
29	D	4	4-	3	4-	3-	3-	3-	3+	26-	4-	3+	3	3+	3	3-	2+	3	18	32	25	32	26		1.0
30	D	3-	4-	4-	4	4+	2+	3-	3	26+	2+	4-	3+	4-	4	2	2+	3-	19	37	28	36	29		1.0
31		2-	1+	2+	2	2+	2	2-	2	15+	2	2-	3-	3-	2	2	1+	2-	7	18	14	17	16		0.4
																			9	20.2	15.1	17.7			0.45

Day	Three-Hourly Indices Kn								Three-Hourly Indices Ks							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1	3	5-	3	4	3	3-	2	2-	4-	4+	3	4-	3-	3-	2+	2-
2	3-	1+	3	2+	3-	2+	2-	2-	3+	2+	3	2+	3	2+	2-	2-
3	1	3	3-	4-	2+	3	2	3-	1-	3-	3-	4	2+	3	2	3
4	2+	2	4-	3	2+	3-	3	2-	2	2-	4	3+	3-	3	3	1+
5	1+	2-	2-	2-	3-	2	2-	2-	1	2	2-	1+	2-	2+	1+	1+
6	3-	1+	2-	1	2-	2-	1	1+	3+	1+	2-	1+	2	2-	2-	1
7	3-	2	2	3-	2-	2+	1+	2+	3	2+	2-	2	2-	2+	1+	3
8	1+	3-	2+	2	3	3-	3+	2+	2-	3-	3-	2+	3	2+	3+	3-
9	3+	3	2+	3-	2	2+	2	2	3-	3+	2	3-	2-	2-	2-	1+
10	1+	3	2+	3-	1+	1	2-	1	1+	2+	2+	2-	1+	1-	1	1+
11	1+	1	1	1+	1+	1	2-	1+	1+	1	1	1	0+	1+	2-	1
12	2	2-	1+	1	1+	1	2-	2	2	1+	1	1-	1-	1	1	2-
13	1+	2-	2-	1+	1+	1	1	1+	1	1+	1	1+	1	1-	1-	0+
14	1+	2-	2+	2-	2+	1+	1	1	1+	2-	2+	2-	2-	1+	0+	0+
15	2-	1+	2	2+	2+	4+	4+	3+	2-	2-	2-	2	2-	3-	4-	3
16	3	3	4-	2+	3	3-	3	2+	3-	3	4	2	3-	2	4-	3-
17	1+	2	1	2-	2-	1+	1+	2-	1+	2-	1	1+	2-	1-	1	2
18	1+	2+	2	1	1+	1+	2	2	1+	2-	2-	1-	1-	1	1+	2-
19	2+	1	2-	1	1+	2-	1+	1	3	1+	2-	1	1+	1+	1	0+
20	1	1+	2-	2-	1+	1	1	1+	1	1+	1+	1	1-	1-	1	1
21	1+	0+	1-	1+	2-	2	0	0+	1	1-	0	1	1+	1-	0	0
22	2-	1+	2+	2	1+	1	0+	1	1	1	2+	2	1-	0+	0	1-
23	2-	2-	1+	1+	2+	2-	1	1-	2-	2-	1-	1-	2-	1+	1-	1-
24	0+	1-	1-	1-	2-	2-	2+	2	1-	1-	0+	1-	1+	1+	3-	2-
25	3+	2+	2	2-	2+	2-	1+	2+	3+	3-	2-	2-	2	2-	1	2-
26	2+	0+	0	0+	0+	0+	1+	2	2+	1	0	0	0+	1-	1-	2-
27	2-	2	2-	3-	2	1+	3	3-	1+	2-	1+	3-	2	1+	3-	3
28	3+	3-	4	3	3+	3-	3+	3-	3+	2+	4-	3	3	3-	3+	2+
29	4-	3+	3	3+	3-	3-	3-	3	4-	3+	3	3+	3+	3-	2+	3
30	3-	4-	3+	4-	4+	2	2+	3-	2+	4-	3	4-	4-	2-	2	3-
31	2	2-	3	3	2+	2	1+	2	2+	1+	3-	3-	2	2-	1+	2-

DAILY AVERAGE INDICES Ap

	1975					1976						
DAY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
1	9	7	6	7	32	4	23	17	107	10	6	18
2	7	6	2	36	27	4	20	32	16	58	6	9
3	5	3	11	65	12	15	16	27	44	94	12	12
4	6	3	9	41	13	10	12	12	30	20	20	14
5	29	4	6	22	8	9	8	15	27	14	20	6
6	7	13	25	11	7	13	8	33	30	8	7	6
7	5	7	38	10	4	11	21	26	27	10	13	9
8	14	6	45	7	18	5	29	42	14	10	8	13
9	15	24	37	37	16	4	24	36	16	4	4	10
10	15	26	24	20	8	47	24	32	12	6	6	6
11	7	26	8	13	5	40	12	27	12	11	26	4
12	4	19	12	9	3	13	17	26	9	7	7	5
13	5	17	7	4	3	9	22	11	13	6	4	4
14	16	13	9	3	6	11	17	14	15	4	3	6
15	18	8	5	4	9	7	8	15	4	5	4	19
16	5	6	10	6	14	10	6	18	8	5	5	16
17	9	13	8	17	9	14	14	20	5	4	14	5
18	6	14	4	7	6	9	22	13	2	3	21	6
19	4	8	3	8	6	8	25	11	5	12	4	6
20	15	7	5	9	3	11	19	8	2	19	5	4
21	17	6	6	18	9	20	14	5	5	11	3	3
22	12	4	6	50	10	23	14	3	19	11	3	4
23	10	4	7	8	7	20	4	5	8	14	4	5
24	6	2	4	13	2	21	3	4	16	6	16	4
25	9	3	4	15	18	10	4	4	9	9	18	9
26	5	14	5	14	34	5	9	138	6	6	7	4
27	6	14	5	5	31	6	26	35	11	5	6	8
28	5	8	9	9	15	5	20	15	10	14	5	16
29	27	5	12	29	15	6	34	15	17	22	5	18
30	14	2	9	36	11	9		12	10	17	29	19
31	6		19		7	29		10		9		7
MEAN	10	10	12	18	12	13	16	22	17	14	10	9

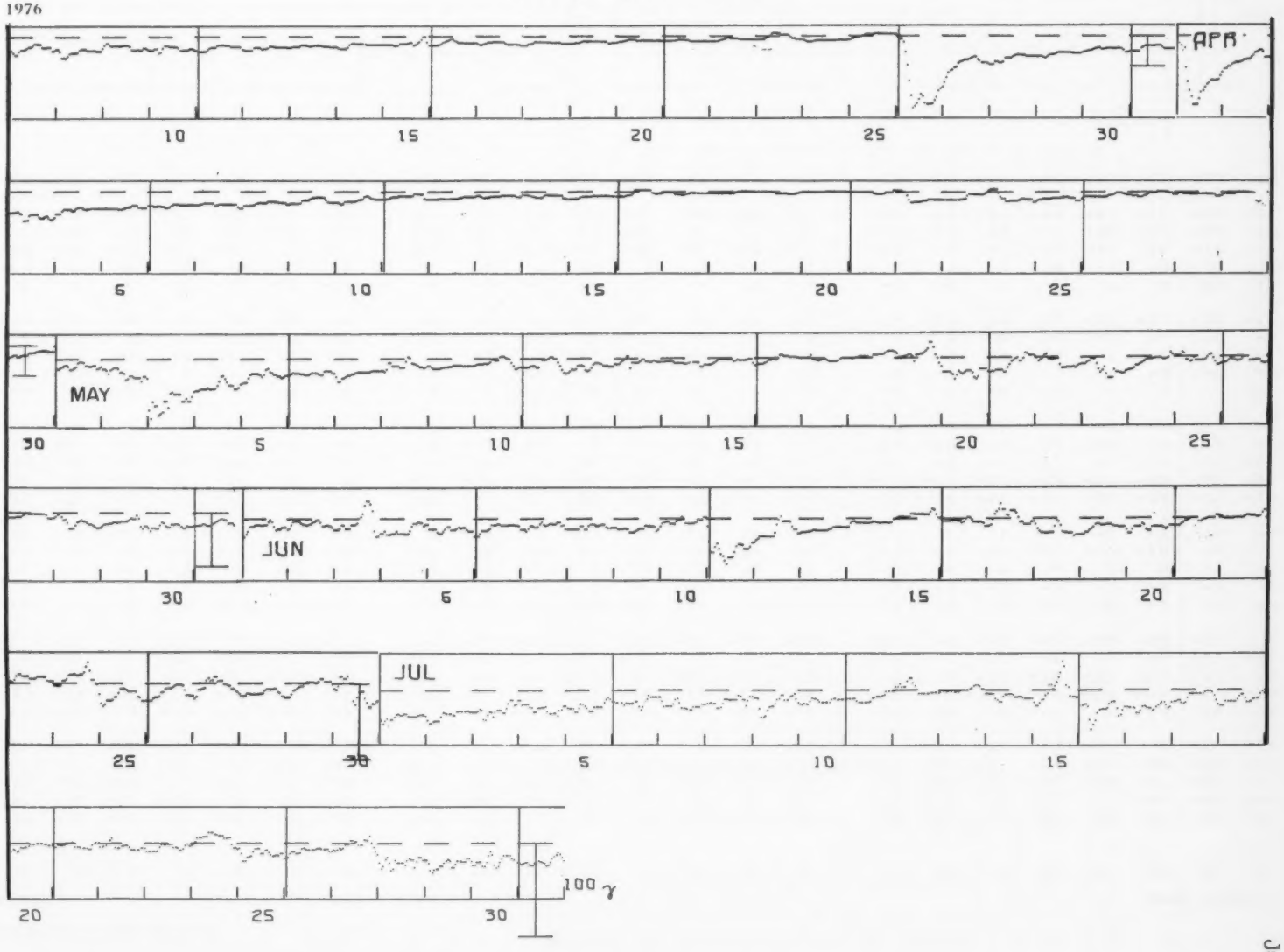
GEOMAGNETIC ACTIVITY INDICES


DAYS IN SOLAR ROTATION INTERVAL
ROT. NO.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
1952
Apr 30 1 5 10 15 20 25 26 May
1953
May 27 30 31 1 5 10 15 20 22 Jun
1954
Jun 23 25 30 1 5 10 15 19 Jul
1955
Jul 20 25 30 31
Aug 1 5 10 15 Aug
1956
Aug 16 20 25 30 31 1 5 10 11 Sep
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp (after Bartels)
Kp till 1976 July 31
Ks (from Wingst and Göttingen) till Aug 18

GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

1976



Note the sensitivity indicator for each month on the last day of the month and also note that the zero reference level is different for each month.

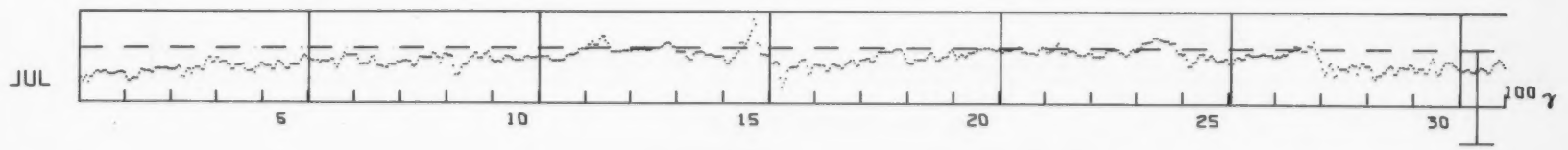
HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

JULY 1976

NASA/GODDARD SPACE FLIGHT CENTER

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-31	-36	-32	-30	-38	-31	-32	-28	-26	-25	-28	-28	-25	-26	-29	-30	-30	-29	-29	-27	-26	-26	-27	-29
2	-33	-36	-36	-33	-32	-34	-33	-28	-24	-26	-27	-25	-25	-28	-28	-23	-22	-23	-24	-23	-22	-23	-25	-24
3	-25	-25	-22	-20	-23	-32	-33	-26	-23	-25	-29	-23	-21	-22	-22	-25	-25	-19	-14	-11	-11	-17	-15	-11
4	-12	-17	-15	-15	-15	-19	-20	-24	-23	-19	-19	-18	-19	-17	-24	-26	-25	-24	-26	-28	-21	-20	-17	-18
5	-20	-21	-21	-20	-24	-23	-19	-15	-16	-18	-20	-23	-24	-22	-18	-18	-18	-18	-18	-13	-10	-8	-11	-13
6	-13	-15	-15	-14	-15	-17	-14	-14	-16	-14	-15	-12	-14	-19	-22	-18	-12	-10	-6	-9	-8	-8	-9	-8
7	-9	-13	-19	-17	-17	-18	-19	-15	-10	-9	-15	-20	-21	-21	-22	-23	-22	-18	-18	-18	-18	-15	-17	-16
8	-14	-14	-13	-15	-15	-20	-21	-18	-14	-10	-11	-12	-11	-12	-10	-10	-6	-8	-11	-12	-18	-11	-7	-8
9	-10	-8	-11	-21	-30	-28	-27	-21	-18	-17	-19	-15	-10	-9	-6	-7	-12	-12	-12	-7	-6	-4	-11	-14
10	-16	-17	-14	-16	-17	-12	-9	-11	-9	-12	-14	-15	-13	-14	-14	-13	-10	-9	-10	-12	-10	-10	-10	-9
11	-11	-10	-9	-9	-9	-13	-15	-15	-14	-14	-14	-13	-12	-9	-8	-7	-8	-9	-6	-5	-2	-1	-2	-2
12	-1	3	3	6	2	2	3	9	12	11	6	3	-1	-5	-5	-5	-4	-5	-5	-3	-3	-3	-3	-5
13	-2	-1	-1	-4	-1	-3	-3	-4	-4	-3	-1	0	0	-1	0	1	2	4	5	4	2	0	-1	-5
14	-5	-6	-6	-6	-10	-12	-14	-14	-7	-5	-6	-4	-4	-7	-9	-8	-7	-8	-10	-11	-10	-10	-9	-10
15	-14	-18	-18	-14	-11	-10	-6	-4	5	4	0	4	8	13	18	30	23	3	1	-8	-9	-7	-10	-8
16	-18	-18	-15	-16	-19	-33	-43	-36	-32	-24	-21	-20	-20	-22	-19	-15	-13	-12	-14	-21	-29	-26	-21	-18
17	-18	-20	-20	-20	-21	-26	-26	-22	-18	-17	-20	-21	-20	-23	-21	-18	-16	-15	-13	-13	-17	-20	-18	-13
18	-12	-13	-11	-12	-15	-16	-13	-8	-4	-4	-5	-4	-4	-5	-4	-5	-2	-1	-2	-1	-4	-7	-12	-16
19	-18	-18	-16	-12	-14	-12	-13	-14	-12	-10	-7	-5	-5	-10	-14	-13	-12	-10	-9	-9	-8	-4	-2	-5
20	-8	-12	-9	-7	-9	-11	-8	-5	-7	-4	-4	-3	-1	-3	-2	0	0	0	-1	-3	-3	-4	-3	-3
21	-6	-4	-2	-2	-4	-3	-1	0	0	1	-1	-5	-4	-5	-7	-6	-6	-6	-8	-6	-2	0	1	-1
22	-5	-5	-3	-2	0	3	5	-1	-6	-7	-5	-3	-4	-2	-4	-6	-8	-9	-9	-9	-7	-5	-6	-7
23	-10	-9	-9	-9	-9	-9	-8	-4	-2	-3	-2	-1	-1	-2	-6	-4	-7	-9	-9	-6	-3	-1	-4	-3
24	-1	1	5	6	6	7	5	8	11	11	10	8	7	6	8	6	4	5	6	4	-3	-6	-5	-8
25	-5	-12	-20	-19	-15	-14	-13	-9	-6	-6	-6	-12	-11	-8	-7	-11	-13	-15	-13	-12	-15	-11	-11	-17
26	-18	-15	-11	-9	-10	-12	-12	-10	-6	-5	-8	-9	-7	-8	-8	-6	-5	-6	-8	-8	-7	-6	-10	-10
27	-7	-10	-7	-5	-8	-5	-2	-1	-2	3	1	0	1	-3	-2	-2	4	1	3	8	-1	-5	-10	-13
28	-22	-28	-24	-17	-15	-22	-30	-27	-18	-22	-22	-22	-22	-24	-18	-16	-19	-19	-27	-19	-15	-16	-19	-19
29	-19	-22	-30	-32	-28	-27	-27	-24	-25	-21	-19	-17	-20	-27	-27	-22	-19	-19	-21	-21	-20	-16	-18	-20
30	-24	-23	-20	-21	-21	-25	-26	-20	-13	-9	-13	-24	-27	-24	-20	-16	-13	-14	-14	-14	-17	-19	-21	-22
31	-23	-24	-21	-20	-21	-24	-25	-25	-21	-22	-19	-21	-22	-23	-25	-23	-20	-16	-14	-12	-10	-13	-16	-19



PRINCIPAL MAGNETIC STORMS

JULY 1976

OBS. 2 letter IAGA code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	COMMENCEMENT hr min (UT)	COMMENCEMENT TYPE	SC - AMPLITUDES D(')	SC - AMPLITUDES H(γ)	SC - AMPLITUDES Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	MAXIMUM 3 HOUR - INDEX K K	RANGES D(')	RANGES H(γ)	RANGES Z(γ)	UT END DAY	UT END HOUR
IR	41.0N	30	0400	..	..	..	..	30(4)	7	20	163	60	02	21
NE	55.1N	3	0357	SC	0.5	9	..	04(3)	6	28	76	90	05	06
HD	07.6N	3	0400	..	..	..	..	04(4)	4	3	78	30	04	21
HD	07.6N	8	1200	..	..	..	..	08(5)	4	6	55	36	09	23
NE	55.1N	15	15--	..	..	..	..	16(3)	5	21	80	115	17	08
WI	54.2N	15	15--	..	..	..	..	15(6,7)	5	25	130	40	16	21
BD	48.9N	15	02--	..	..	..	..	16(3)	5	19	69	37	17	00
IR	41.0N	15	0600	..	..	..	..	15(6)	5	17	119	28	16	23
HD	07.6N	15	0750	..	..	..	..	15(6)	5	5	88	32	16	22
HU	00.6S	15	1200	..	..	..	..	15(6)	6	5	181	36	16	20
PM	18.6S	15	07--	..	..	..	..	16(3)	5	3	100	50	16	15
KG	56.5S	15	15--	..	..	..	..	15(7) 16(7)	4	--	--	--	17	21
NE	55.1N	27	0424	..	..	..	..	28(3)	6	37	120	122	31	12
BD	48.9N	27	20--	..	..	..	..	30(2)	5	23	94	56	30	24
IR	41.0N	27	1800	..	..	..	..	30(5)	6	15	118	34	30	16
JP	17.3N	27	18--	..	..	..	..	--	-	8	66	45	30	23
SH	14.6N	27	18--	..	..	..	..	--	-	7	82	39	30	23
UJ	13.5N	27	18--	..	..	..	..	--	-	7	78	42	30	23
AL	09.5N	27	18--	..	..	..	..	30(4)	5	7	74	50	30	23
HD	07.6N	27	0900	..	..	..	..	30(4)	5	6	93	32	30	21
AN	01.5N	27	18--	..	..	..	..	--	-	5	118	55	30	23
TV	01.1S	27	18--	..	..	..	..	--	-	5	132	94	30	23
CO	64.6N	28	04--	..	..	..	..	29(3,4)	6	83	1100	410	29	19
GU	04.0N	28	1316	..	..	..	..	29(1)	5	0	70	10	29	19

Reports were received from the following observatories:

College Witteveen Tucson Alibaq Annamalaingar Trivandrum Gnangara
Sitka Fredericksburg Irkutsk Hyderabad Huancayo Port Moresby Toolangi
Newport Boulder Honolulu Guam Hermanus Port-aux-Francais

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

JULY 1976

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 32. Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

n o n e

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

12 0242 - 0308 SS
14 0554 - 0610 MT
29 1630 - 1643 BU

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

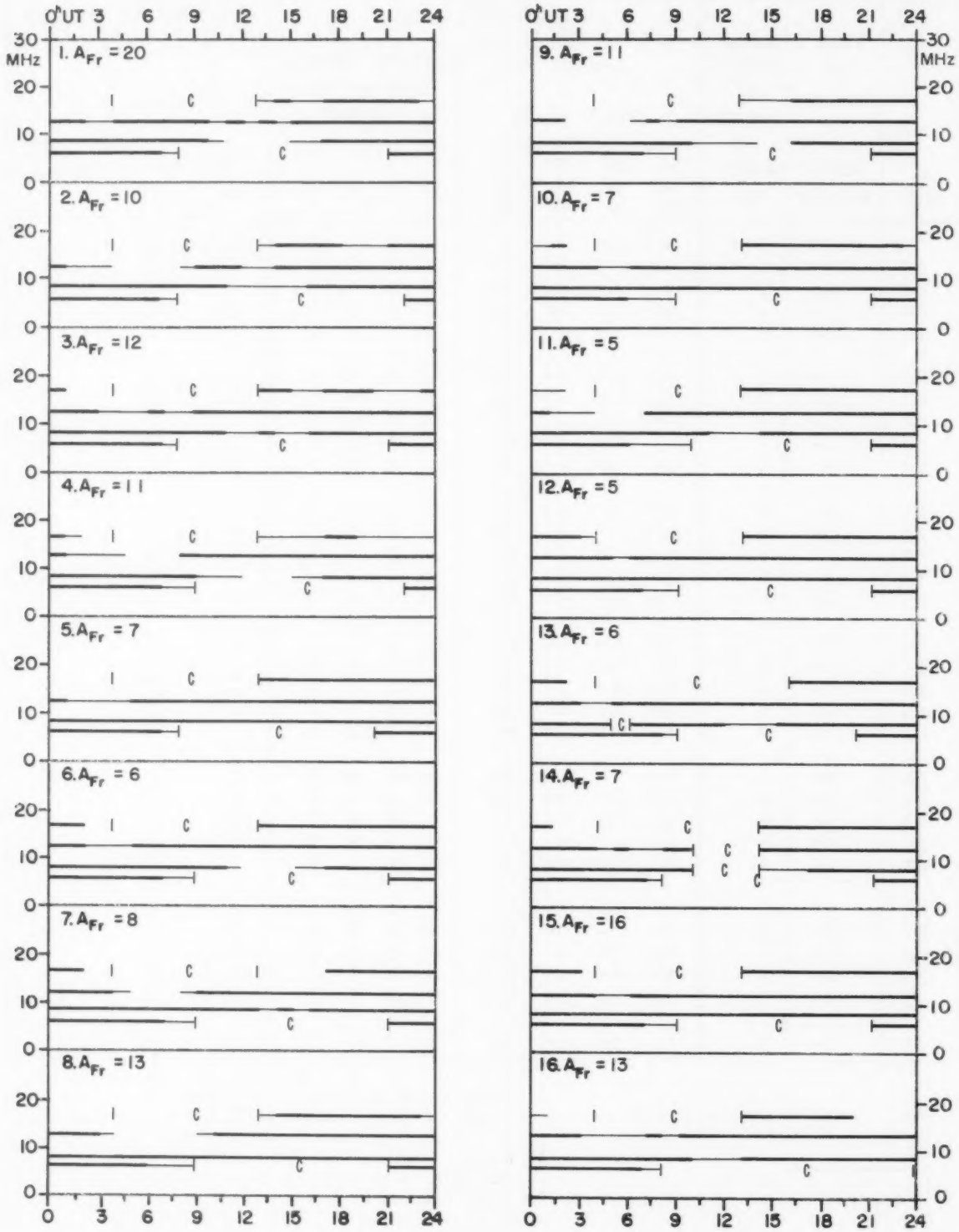
JULY 1976

North Atlantic

JUL 1976	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	5+	5	4+	5-	6+	6+	4	4	4	5	(4)	3	20
02	6o	5	6o	6+	6-	6+	5	5	6	5	3	2	10
03	6o	5	6-	7-	6-	6o	5	5	6	6	3	3	12
04	6o	6	6o	6o	6o	6+	5	5	6	6	3	2	11
05	6o	6	6o	6-	6o	7-	6	6	6	6	2	2	7
06	6-	6	5+	6-	6-	6-	6	6	6	6	2	1	6
07	6o	6	6-	6-	6+	6o	6	6	6	6	3	1	8
08	6-	5	5+	6-	6o	6o	5	5	6	5	2	3	13
09	6-	5	6-	5+	6-	6o	5	5	5	6	3	2	11
10	6o	5	7-	6o	6-	6o	6	6	6	6	2	1	7
11	6-	6	6-	5+	6o	6-	6	6	6	6	2	1	5
12	6-	6	6-	4+	7-	6+	6	6	6	6	2	2	5
13	6-	6	6-	5o	6+	6-	6	5	6	6	2	2	6
14	6-	6	6-	5-	6o	6-	6	6	6	6	2	2	7
15	6o	6	6+	6-	6o	6o	6	6	6	6	2	(4)	16
16	6-	6	6o	5o	6o	6-	5	5	5	6	3	2	13
17	6-	6	6-	6-	6-	6-	5	5	6	6	2	2	5
18	6-	6	6-	6-	6-	6-	6	6	6	6	2	2	6
19	6o	7	6o	7-	6o	6-	6	6	6	6	2	1	7
20	6o	7	6o	6o	6+	6-	6	6	6	6	2	1	5
21	6o	6	6-	7-	6-	6o	6	6	6	6	1	1	2
22	6o	6	6o	6-	6-	6o	6	6	6	7	2	1	6
23	6o	6	6o	6o	6o	6o	6	6	6	7	2	1	4
24	6o	6	6o	6o	6o	6+	6	6	6	6	1	2	5
25	6+	6	6-	6+	7-	7-	6	6	6	6	3	2	8
26	6+	6	7-	6o	7-	6+	5	6	6	6	1	1	5
27	6-	5	6+	5-	6-	6o	6	6	6	6	2	3	9
28	6-	5	6-	5+	6-	6o	5	5	6	5	(4)	3	21
29	6-	5	5o	5+	6o	6-	5	5	5	5	(4)	3	16
30	6-	5	5+	6-	5+	6-	5	4	4	5	(4)	3	17
31	6-	6	5+	5+	6o	5+	5	5	5	5	3	2	9

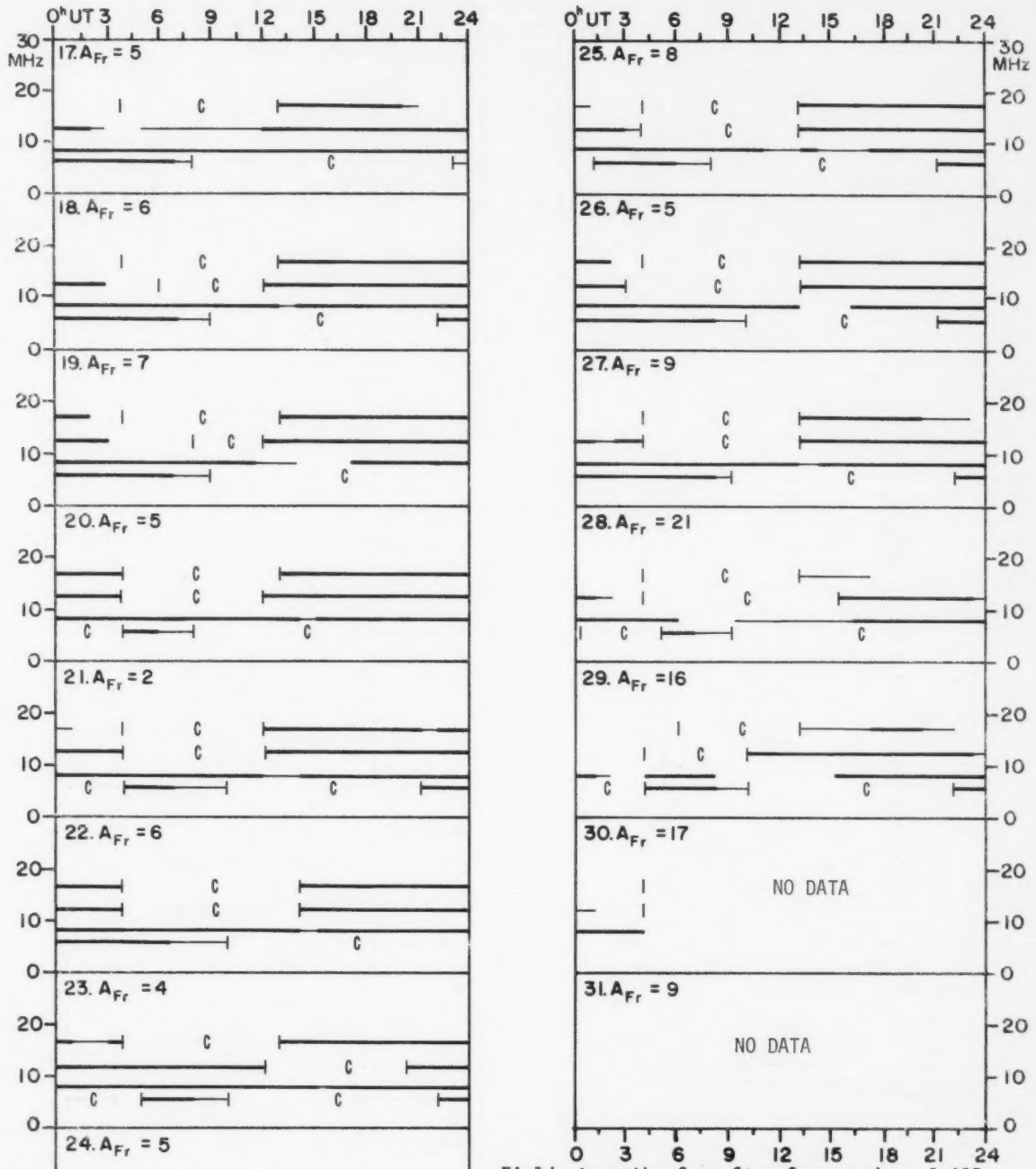
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JULY 1976



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JULY 1976



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow.- Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line. Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

JULY 1976

Date	TOKYO	HALIFAX	MOSCOW	CANBERRA	BRACKNELL
1	4.3	6.4	12.6	4.5	12.6
2	5.0	6.3	12.8	4.5	12.2
3	4.4	6.5	12.7	4.6	11.3
4	4.8	6.6	12.5	4.6	12.0
5	5.2	7.6	12.2	4.4	11.5
6	5.1	7.1	12.4	4.2	12.5
7	5.5	7.2	12.5	4.2	12.5
8	4.4	6.7	12.2	5.0	12.3
9	5.4	6.9	13.4	4.7	12.0
10	5.4	7.4	12.9	4.4	11.3
11	6.2	7.9	13.1	4.2	11.1
12	5.8	8.2	13.2	4.9	13.6
13	6.5	8.2	13.2	4.6	12.7
14	6.7	8.7	13.0	4.8	12.9
15	5.7	8.7	13.5	5.1	13.2
16	4.5	7.4	12.8	4.8	12.1
17	6.0	7.6	12.7	4.6	12.3
18	4.7	8.7	13.3	4.3	12.0
19	6.0	8.3	13.3	4.6	12.7
20	6.3	8.5	13.4	5.0	13.4
21	5.6	8.6	13.0	5.0	12.7
22	5.4	8.8	13.1	4.9	12.8
23	6.3	9.0	13.0	4.9	13.2
24	5.7	8.1	13.0	4.2	12.3
25	5.3	7.9	12.8	4.5	11.7
26	5.8	8.3	13.3	3.9	12.7
27	5.6	8.0	12.8	4.5	12.8
28	3.6	6.9	12.8	4.4	12.6
29	3.3	6.8	12.6	4.1	12.3
30	3.9	6.8	12.3	4.1	11.6
31	4.8	7.4	12.9	4.0	11.9
MEAN	5.3	7.7	12.9	4.5	12.3

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1776-1976